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F E V E R S;

WHEREIN

THEIR THEORETIC GENERA, SPECIES,
AND VARIOUS DENOMINATIONS,

Are, from Observation and Experience, for thirty Years, in
EUROPE, AFRICA, and AMERICA, and on the
INTERMEDIATE SEAS,

Reduced under their Characteristic Genus,

F E B R I L E I N F E C T I O N ;

A N D

T H E C U R E E S T A B L I S H E D

O N

P H I L O S O P H I C A L I N D U C T I O N .

By ROBERT ROBERTSON, M. D.

PHYSICIAN TO THE ROYAL HOSPITAL, GREENWICH.

NULLIUS ADDICTUS JURARE IN VERBA MAGISTRI.

L O N D O N :

P R I N T E D F O R T H E A U T H O R ,

A N D S O L D B Y G . G . J . A N D J . R O B I N S O N , P A T E R N O S T E R - R O W .

M. DCC. XC.



BY PERMISSION.

TO

THE RIGHT HONOURABLE
THE LORDS COMMISSIONERS

FOR

EXECUTING THE OFFICE

OF

LORD HIGH ADMIRAL

OF

GREAT BRITAIN AND IRELAND,
&c. &c. &c.

THE FOLLOWING ESSAY

ON

FEBRILE INFECTION.

IS INSCRIBED, WITH ALL DUE RESPECT,

BY

THEIR LORDSHIPS
MOST OBEDIENT, AND
MOST HUMBLE SERVANT,

R. ROBERTSON.

Hythe, near Southampton,
Feb. 15, 170.

E R R A T A.

Page.	Line.	
1	6	dele <i>as</i> .
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2	1	insert (
4	21	for <i>evacuation</i> read <i>evacuations</i> .
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	10	dele ‡
11	4 & 8	for <i>Fever</i> read <i>Fevers</i> .
13	last	add a <i>comma</i> after <i>off</i> and <i>from</i> .
23	17	for <i>consequence</i> read <i>source</i> .
27	7	for <i>idropathic</i> read <i>idiopathic</i> .
45	2	from the bottom, after <i>consider</i> read <i>men sceptics</i> , and for <i>condemn men</i> read <i>condemn them</i> .
47	10	for <i>is</i> read <i>was</i> .
75	6	With <i>Early</i> begin a new paragraph.
76	11	With <i>In December</i> begin a new paragraph.
79	14	add a <i>comma</i> after <i>one</i> .
	16	for <i>in the other</i> read <i>in another</i> .
81	7	after <i>parts</i> read <i>of America</i> .
	14	with <i>On the</i> begin a new paragraph.
83	5	for <i>that number</i> read <i>all of them</i> .
	12	after <i>is</i> read <i>said to be</i> .
90	17	after <i>is</i> read <i>therefore probably</i> .
97	4	after <i>excitement</i> read <i>irritability or excitability</i> .
	9	the sentence beginning <i>Of</i> read as a note.
116	6	with <i>This</i> begin a new paragraph.
135	11	for <i>Weller's</i> read <i>Watson's</i> .
163	9	for <i>effusions</i> read <i>suffusions</i> .
180	6	for <i>vitæ</i> read <i>viæ</i> .
253	20	for <i>indues</i> read <i>induces</i> .

Published by the same Author.

I.

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II.

OBSERVATIONS on JAIL, HOSPITAL, or SHIP FEVER, from the 4th of April 1776, until the 30th of April 1789, made in various Parts of Europe and America, and on the intermediate Seas. A new Edition, much enlarged and improved.

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P R E F A C E.

IN the following Essay I have fulfilled my promise of submitting to the public my sentiments on Fevers in general ; and although I may be thought rash in thus deviating in opinion from the great medical oracles both of ancient and modern days, yet I trust the candid reader will patiently and impartially peruse the Essay, before he condemns the writer ; and should the evidences here adduced (which are collected with indefatigable at-

A 4. tention.

tention and long experience, in a very extensive field of observation in three quarters of the globe) prove insufficient to make him a convert to the *New Doctrine of Fever*—still, however, I flatter myself that his time will not be altogether misemployed; because my conclusions, whether just or erroneous, are nevertheless deduced from real facts, upon which time can make no impression; and which future observations, I am well convinced, will more widely establish.

I have thought fit to transfer a considerable part of the Introduction to the first edition of my *Observations on Jail, Hospital, or Ship Fever*, to Part the First of this *Essay*, where (with a few other passages from the same edition) it assumes

sumes a new form, and appears with more advantage to the reader.

The arrangement of Chap. iii. Part iii. may seem to have been made in imitation of the manner of other modern writers. It was difficult to be sufficiently concise and clear without adopting some such mode; nor could I otherwise avoid the repetitions which the references now render unnecessary.

Through the whole of this Essay, the reader is to consider *Febrile Infection*, and *Idiopathic Fever* (sometimes for brevity expressed *Fever**) as synonymous terms.

Febrile Infection is indeed a new term; but I believe it will meet with approbation, because it is definite,

* i. e. *Fever* considered as a disease sui generis, without regard to the genera or species of Fevers insisted on by former writers.

sufficiently comprehensive, and also inapplicable to any other disease, which cannot be said of the general term *Fever*; for every reader knows that Fever accompanies, in some degree, every disease to which the human frame is subject: such a term therefore is vague and indefinite. I have moreover been determined in my choice of the expression *Febrile Infection*, from observing that Fever is always infectious, more or less, in every quarter of the globe, and in all seasons, according to circumstances. Hence I infer that Fever always has been, and always will be, more or less infectious. Should practitioners affirm that such or such Fevers have not been infectious, their declaration would no more invalidate the doctrine I mean to inculcate, than if they

they were to say that small pox are not infectious, because they may have seen many persons escape in the same family where the disease has been raging ; nay, it is well known that all possible means to communicate the small pox, by inoculation and contact, have been often tried in vain. But does this destroy the general doctrine and belief of the contagious nature of that disease? The fact is, that neither small pox nor Febrile Infection can be communicated, unless there be in the constitution a predisposing cause to receive the contagion. If Providence had not wisely ordained this, every person who approached the sick, wherever these disorders prevailed, would inevitably have been infected ; and the plague (which I am satisfied is only Febrile Infection in its most virulent state, and rendered

rendered so extremely deleterious by the impure air of crowded and ill-planned cities, unwholesome, poor diet, unskilful treatment of the sick, filth, season, and climate) would become universal, and destroy mankind.

The observations which I have made on Fever* being already laid before the reader, let me here remind him that these were not the hasty journals of a transient voyager; they were the result of many years diligent investigation in the different regions of Europe, Africa, and America. In these distant climates I visited, and in others I staid, several years successively, as will appear from the Synoptical View of my Practice. I trust, therefore, that I

* See my Physical Journal, printed in 1777 for John Murray; and my Observations on Jail, Hospital, or Ship Fever, printed for the Author in 1789.

shall not be thought presumptuous in offering my opinion on the important subject of Fever; or in venturing to speak boldly and decidedly on a topic to which I have directed so large a portion of an active and laborious life.

If I differ in sentiment from other writers, still let it be observed that my sentiments are founded on *experimental facts*; no theory governed the practice. Daily observation shewed me the futility and fallacy of theory; my opinion therefore is practical induction. A fashionable nostrum may, perhaps, be administered innocently, though without efficacy; but mistakes in the treatment of so dreadful a disease as we are here speaking of, must be of dangerous tendency to the general welfare of mankind. As Fe-
brile

brile Infection depends upon invariable and universal causes, the cure must be conducted upon certain and philosophical principles ; and therefore whatever medicines are meant to produce a cure, they must all coincide in their effect.

From what has been cursorily said, the reader may easily see that he must not expect to meet with any splendid theory in the following pages. Anxious only for the good of my fellow creatures, I have never even thought of conciliating the patronage of professional leaders. Truth, though told in plain language, will triumph, I know, in the end, over dazzling hypothesis.

It is natural for the writer who is handling a subject of allowed importance, to flatter himself that, as he is engaged in a work of public good,

so he cannot fail of conciliating public approbation : the consciousness, therefore, of meaning well, inspires me with hope that my labours will not be altogether ineffectual. As for the favourable opinion of the public, none but the vain and the foolish affect to despise it : it is the bright guerdon to which every literary adventurer directs his aim ; it kindles the fire of glowing genius, and cheers the toil of laborious investigation. Yet of the thousands who are in quest of the glittering prize, how few are there who obtain it ! Still, however, the honest and plain writer, though he may miss the palm assigned to the brows of superior merit, may console himself with the pleasing reflection, that an upright intention will not ultimately fail of its reward.

I N T R O D U C T I O N.

INFECTIONOUS diseases, in all countries and at all periods, have been ranked among the severest calamities incidental to mankind ; and febrile infection (one species of these) has ever been considered as a tremendous and fatal foe to human existence. The millions who perish in the fleets and armies of contending nations, are swept away in greater multitudes by the secret malignancy of this disease, than by all the destructive implements of war.

An exact register, not only of the *number* who fall victims, but of the *diseases* also of which they die, in the public service, (with the methods of treating the diseases,

2 INTRODUCTION.

in peace as well as in war) would greatly obviate this calamity, and be productive of general good ; and the plan might, I think, be extended beyond the limits of navies and camps, to civil society at large. The judicious and diligent practitioners would then be distinguished from obstinate or indolent theorists. The inexperienced would either be instructed, or compelled by shame to withdraw from a profession for which they were unqualified ; while those, who by an unwearied attention to diseases, and the effects of remedies, promoted the public good, would receive the well-earned rewards of their labour and skill. Young professors would no longer be led by any theoretic authority whatever, but would adopt those methods which experience had shewn to be most successful. Emulation to excel in so laudable a plan, instead of an ambition

bition to establish the visionary theories of a day, would universally prevail. For God's sake, let mere theory or hypothesis no longer regulate the profession of a science, upon the success of which the interest and lives of mankind depend.

Fever has been my favourite study for thirty years; and having been chiefly employed in the navy during that period, I have enjoyed, in three quarters of the world, a more extensive field for observation than any man, as far as I know, who has ever written on the subject. Upon entering this field of observation, I was almost deterred from my pursuit by practical writers; for, according to their systems, much time was requisite even to know the names, the genera, and species of fever; nay, thousands of years, I found, had not been sufficient to mark these, much less to furnish a complete history of them on their vague and im-

4 INTRODUCTION.

methodical plan. Even Sydenham, a favourite author, I observed, went on adding annually new ones to the immense stock ; so that, instead of being instructed, I was bewildered and lost. In this state of perplexity, I resolved to attend diligently, and to mark down minutely, every case of Fever as it occurred to me in every country, climate, and season; and, upon comparing them together, I have found that Fever is universally one and the same disease.

As there were, at different periods, various theories of Fever, so the treatment of Fever varied accordingly; some preferring one species of evacuation, some another: and the same difference of opinion in the choice of the medicines to procure the evacuations prevailed; but the cure was always to be effected by evacuation. As their theories were incongruous, the practice was eventually unfuc-

unfuccefsful; fo that here too I was compelled to lay down a new method of treatment.

Until 1779, when I was introduced to an acquaintance with Dr. Millar, I never met with any gentleman or book which agreed with me in opinion on the fubject; it need not therefore furprife the reader, that I have made fo little mention of fyftematic writers in my Obfervations, or in the following Effay. In difcourfing with that gentleman, to my great fatisfaction, I found that he had not only been employed himfelf, but that he had alfo been inftrumental in engaging another very able gentleman in the fame plan which I had been purfuing for years, viz. to confider Fever to be the fame in all climates; and that it was to be treated very differently to what it ever had been, by medical profeffors. Dr. Millar's Obfervations on the prevail-

6 INTRODUCTION.

ing Diseases in Great Britain, together with a Review of the History of those of former Periods, and in other Countries, were published in March 1770*; Dr. Clark's on Diseases in Long Voyages to Hot Climates, and particularly those which prevail in the East Indies, in 1773†; and mine in the years 1769, 71, 72, 73, 74, 76, 77, and 78, had already extended to Africa‡, the West Indies, continent of America, and different parts of Europe. The success of the treatment in the different quarters of the world, which was seen in comparing our observations, proved on what a solid foundation the system was laid. My observations have since been made in

* For T. Cadell, successor to Mr. Millar, and T. Notman, in the Strand.

† For D. Wilson and G. Nicol, in the Strand.

‡ An Epitome of which was published, in 1771, by Dr. Lind, in his valuable book on Hot Climates, and fully by the Author in 1777. See the Physical Journal, published for J. Murray.

various parts of Europe, and are published up to May 1789 *.

Such a collection of important observations to be made by gentlemen nearly at the same time, without each other's knowledge, was a little extraordinary; and, without vanity, I believe I may add, fortunate for mankind; as all the proofs which could be wished for on the subject are now furnished. Indeed many practitioners and writers have been so well satisfied with them, that they have secretly adopted them; and, while they have closely imitated the least beneficial part of the plan, with very little decorum, have claimed the honour of being the originals. By one writer, an entire new doctrine has been built on the successful event of this new plan or system; which doctrine, as far as it respects the

* See my Observations on Jail, Hospital, or Ship Fever, new edition, printed for the Author, and Robinson, Pater-noster Row.

new mode of treatment of Fever, will, I may venture to say, last as long as medicine is practised, after it is once adopted ; which it will soon be universally, I have no doubt.

Having in my Physical Journal, and Observations, laid before the reader the appearance of Fever, from the four great and dreadful sources of febrile infection, viz. marsh miasmata, jails, hospitals, and ships; and having avowed that the infection of the three last sources is one and the same, consequently that the Fever is the same ; and as it may appear obvious to every reader, by comparing the histories of the Fever, that Fever from these sources differs in no essential respect from Fever arising from the other grand source of febrile infection ; and as the same mode of treatment is equally successful in all of them ; I am led to conclude, *That Febrile Infection is the same throughout*

throughout the universe; and that the cure depends upon one invariable philosophical principle. In this view I have considered Fever, and the Cure, in the following Essay, which I have divided into four parts.

In the first is laid before the reader a summary view of the theoretic doctrine of Fevers; their genera, species, and the method of cure.

The second part contains the consequences of latent and unsuspected febrile infection, and the means to detect it.

The third contains a synoptical view of my Observations on Fever from 1759 until the end of April 1789; the doctrine of Fever, founded on experimental induction; reasons why Fever is more easily cured in hot than in cold climates; and the description of Fever.

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In the fourth is contained the method of treatment, founded on thirty years observation and experience.

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S E C T. I.

O N F E V E R.

TH E importance of this subject has been acknowledged from the earliest period to the present day, and has employed more or less of the time of every eminent professor and writer in medicine; yet, though universally acknowledged and prosecuted, no one has ever been less understood or improved. The theories

theories concerning it, and the remote and proximate causes thereof, are so numerous, and so diffusively treated of in their writings, that a synopsis of them would compose some folio volumes, I shall not therefore trouble the reader with quotations, but refer him to the originals; and in a brief manner only state the most prevailing doctrines under a few general heads, with their indications for the cure.

S E C T. II.

THEORETIC DOCTRINE OF FEVER.

Both the ancient and modern medical writers are at no less variance as to what constituted, or their definition of, Fever, than they are concerning its cause. This many of them imputed to internal causes, viz. “viscosity and lentor, atra bilis, choler, bile, phlegm, an
“acid, an alkali, a change in the form
“of

“ of the particles of the blood and other
“ fluids.” But besides one or other of
these, which was considered as the remote
cause, a proximate or immediate excit-
ing cause was thought requisite to induce
Fever; and, when induced, different
states of the fluids were supposed to be
then effected, or soon after to be the
consequence.

That “ preternatural heat or quick-
“ nefs of pulse was thought to constitute
“ Fever”—“ any such impediment to
“ the freer circulation of the blood, as
“ destroys its equilibrium”—“ that the
“ phenomena of Fever lead us to believe
“ that they chiefly depend upon changes
“ in the state of the moving powers of
“ the animal system, producing atony
“ and spasm in the extreme vessels”—
and, as in a former work, I inserted,
“ That Fever being an effort of nature
“ to throw off or to free herself from
“ some

“ some morbid matter, we ought not
 “ (say they) to impede her operations,
 “ by either checking or assisting her
 “ (the famous *Vis Medicatrix Naturæ*)
 “ rashly.” How far this doctrine and
 their practice correspond, will be seen in
 their works.

What is very extraordinary, some writers consider the *beginning* of Fever as its proximate cause: this is confounding effect with cause, in my opinion, and going out of the road of logic to affect uncommon sagacity.

S E C T. III.

THEORETIC DIVISION OF FEVER.

Notwithstanding the division of Fever into genera and species is of such great importance with theoretic practitioners, as if the treatment of their patients was to be regulated by it; they are not more

unanimous on this than upon any of the other heads of the subject.

“Fever,” they say, “is to be divided into essential and symptomatic.”

“Essential Fever is to be subdivided into a diary, an intermittent, a continent or remittent, and a continual Fever,” which are explained as follow :

“A diary is a fever of one day’s continuance. Intermittents are either quotidian, simple tertians, simple quartans, double tertians, double quartans, semi-tertians, &c.”

“A continent or remittent Fever is continued, having diminutions and exacerbations; sometimes regular and sometimes irregular, but never a thorough intermission.”

“A continual Fever has no remission, or periodical return of exacerbation; such as malignant or pestilential Fevers, and the plague, &c.”

These

These are again subdivided into species, according to the symptoms and appearances; “as lipyria, caufus, synochus imputris, synochus putris, elodes, febris syncopalis, spurii, &c.” among the ancients.

Some moderns divide Fevers into “inflammatory, nervous, putrid, bilious, yellow, miliary, scarlet, petechial, malignant, and pestilential.”

Sydenham says, that “the constitution of the year is to be regarded, as it produces a fever *fui generis*.”

When the symptoms were very urgent, Boerhaave called the Fever “acute;” when they were more mild and gentle, he denominated it a “slow Fever.”

Some eminent practitioners divide them into “inflammatory, putrid, and a mixture of both.”

Nearly after the same manner, a learned professor divides Fever into
“synocha,

“ synocha, or inflammatory; typhus, or nervous; and synochus, or a combination of these two genera, which constitutes three genera.” And

These he has subdivided into many species; and is extremely elaborate and diffuse on the subject, as the reader may see in his works.

S E C T. IV.

THEORETIC DOCTRINE OF PROGNOSTICS AND CRITICAL DAYS.

Physicians are found disagreeing in the same manner on these heads; and many of them loading Hippocrates with reproaches, because his prognostics and critical days have not strictly applied to their practice; not recollecting the great difference of circumstances under which they practised, and that the treatment alone of Fever will very much alter its appearance and symptoms throughout

the illness. But this is the less to be wondered at, when it is considered that scarce any two in the same place agree upon any medical subject; hence the adage in every person's mouth, "Doctors will differ."

For full information on the subject of prognostics, the reader may consult their own writings.

Respecting critical days, they are said to be the *third, fifth, seventh, ninth, eleventh, fourteenth, seventeenth, and twenty-first* days of the patient's illness, and so on. Many eminent writers pay great regard to these, and expect the *concoction* of the morbid matter to happen on these days only, or at least chiefly.

S E C T. V.

THEORETIC TREATMENT OF FEVER.

"The indications for the cure of continued Fevers are," said to be, "first,
to

to moderate the violence of reaction;" second, "to remove the causes, or to obviate the effects, of debility;" and, third, "to obviate or correct the tendency of the fluids to putrefaction." Or, in other words, to debilitate the patients by the antiphlogistic plan, and starve the disease; and then to strengthen them, and obviate or correct the tendency of the fluids to putrefaction, by tonics and antiseptics.

This doctrine is well received at present, though in fact it contains nothing essentially different from the old method of practice; dividing the cure only into three nominally distinct parts.

In the former edition of my *Observations on Ship Fever*, I observed that, notwithstanding the most generally received doctrine of Fever among physicians, was, "That being an effort of nature to throw off, or to free herself of, some morbid matter, they ought not to im-

impede or accelerate her operation, i. e. the famous *Vis Medicatrix Naturæ*, rashly,” it was very evident from their practice how soon they lost sight of, and how little they regarded, their own precept. Theory, we see, first advances the most cogent reasons for diminishing the violence of “*Reaction*,” the impetus of the blood, or the *Vis Medicatrix Naturæ*, by taking away less or more blood, repeatedly perhaps, which employs the first, if not more days, of the patient’s illness. Theory, for the same reason, and to carry off part of the morbid matter, prescribes vomiting, purging, sweating, and warm bathing, alternately for days. To remove spasm from the extreme vessels; to promote and keep up moderate perspiration, and the different secretions and excretions, theory orders neutrals in different forms—*sp. mindereri*, saline draughts, nitre, crude sal ammoniac, sal

sal polychryst. soluble tartar, antimonials in different ways, particularly James's powder ; or, what is still more pernicious than all the rest, nauseating doses of tartar emetic frequently repeated. Having (by employing these means for days) fully accomplished their first indication for the cure, viz. " to reduce the strength and spirits of the sick."

The second indication takes place, " to remove the causes, or to obviate the effects, of debility;" and tonics for this end are prescribed ; amongst which camphire, contrayerva, and blisters are included by many physicians ; and the latter as stimulants more frequently, and also to keep up a drain of the morbid matter : but either from the too greatly debilitated state of the patients, or from the trifling doses of this class of medicines, they are soon compelled to fly to the medicines intended to fulfil

the third indication, which, if practicable, can be effected only by bark, wine, opium, and acids, “to obviate or correct the tendency of the fluids to putrefaction.” However, the tone of the stomach and digestive powers are so far debilitated, that the bark is very often ineffectual, and the blame laid upon it.

The impropriety of this practice, as well as of the alexipharmic, which varies only in giving hot medicines to expel the morbid matter through the pores of the skin, instead of diluents, solutives, refrigerents, and aperients, to evacuate by stool, urine, and perspiration, is well and justly exposed by Dr. Millar *.

From what has been said, it will appear obvious that the difference between ancient and modern practice has been

* Observations on the Prevailing Diseases of Great Britain, part ii. chap. vii. p. 231.—Observations on the Management of Diseases in the Army and Navy, part ii. chap. v.—xvi. p. 191—219.

chiefly in words, and but very little in fact. For the whole scope or aim of treatment has been to debilitate their patients; to purge off, in different ways, part of the morbid matter; to obtund, neutralize, or edulcorate the remaining parts; and at last to strengthen their patients; how widely soever the medicines might differ in their violence or mildness in operation, which were used to effect these indications.

Such has been the management of Fever, with the exceptions before mentioned, from the time of Hippocrates to the present.

Here I shall only take notice of one fatal consequence of the antiphlogistic treatment of Fever; and indeed all the rest are as ill founded. The one I mean, is the mistaken idea of physicians, "That when people in high life, who live luxuriously, are seized with

Fever of any type *, they imagine it impossible it can be otherwise than inflammatory, and that the strength of their patients cannot be too soon reduced by bleeding and purging. But if this was good practice, should we see so many instances of people of the very first rank falling victims to it? It cannot be for want of timely application for assistance; since, as soon as they are taken ill, their physicians are sent for; and, in consequence of improper management, the disease speedily proves fatal: or, should the strength of the sick hold out against debilitating evacuations, they labour miserably, for many months, under the consequence of Fever, in various forms, which many physicians consider as salutary, and a sure means of obviating or removing worse diseases;

* I speak in conformity to custom.

and

and do not abandon their thesis, even when death has demonstrated their mistake.

I believe it may be laid down as a general rule, that an inflammatory diathesis is a consequence of casual excess in a healthy constitution only; and that the asthenic diathesis is as frequently a consequence of habitual excess as it is of too penurious living. To proceed further on this subject, would lead me too far into the theoretic field of argument, which it is not my intention to enter; I therefore leave it to them who have more leisure and inclination to do it scientifically. Be it my task to adhere to experimental facts; to state them clearly; and to assist the unexperienced to comprehend Fever, and manage it more successfully than it has been hitherto.

A N

ESSAY ON FEVER.

P A R T II.

C H A P. I.

THE BAD CONSEQUENCES OF LATENT AND
UNSUSPECTED FEBRILE INFECTION.

IDROPATHIC Fever, from whatever cause it originates—whether from habitual excess, or too penurious living; from heat and moisture, or cold and moisture; from excessive fatigue, or indolence; from exposure to the ardent rays of the sun, called by the French a *coup de soleil*, or extreme cold; or from contagion—I have always observed becomes less or more infectious, according to circumstances. This observation being founded on experience, becomes
therefore

therefore an object of so great importance as to claim particular regard, and induced me to apply the term Febrile Infection to Fever.

The obvious consequences of latent and unsuspected Febrile Infection, have often been a general neglect to use proper means to check it, or prevent it from spreading, and to treat it properly; as appears from the following remarkable instances: and many more might be adduced.

In the year 1770, I belonged to a ship employed on a station commonly thought very healthy; on board of which a man ill of Fever died a few days after he was admitted, out of compassion, much against my inclination and advice. The ship, though healthy before, immediately became sickly, and continued so while I belonged to her. And I have been informed, by the surgeon

geon who succeeded me, that the people continued to be sickly while the ship was in commission, which was more than a year after I left her *.—When officers neither know the consequence of admitting sick on board, nor will pay regard to their surgeons who advise them against it, obstinacy is a mild appellation for such conduct.

On the 26th of October, 1776, sixty supernumeraries were sent on board of the *Juno*, after our convalescents had been sent on shore, to sick quarters, at Halifax; and great pains had been taken to destroy the infection, by washing, burning good fires, and smoking the ship. Eight of the supernumeraries complained immediately; and, on examining them, I found them ill of Ship Fever: upon which captain Dalrymple, when I told him, applied for an order to return them; and

* See the Synopsis for the year 1770.

they were sent back next morning, on board the Rainbow. The surgeon of that ship, though a gentleman of good understanding, not suspecting the danger, imagined their complaints slight colds; but I have been since well informed that the ship's company became sickly soon after.

When the Juno arrived at New York, the 1st of January 1777, judging it my duty, I reported on the sick list, to be delivered to the commander in chief, that the Fever was infectious; and that it would be necessary to send the sick on shore to the hospital, that we might endeavour to destroy the infection on board. The physician prepared to receive them, and they were sent next day; most of them being in a convalescent state, they only wanted change of air, nourishing diet, and to have their clothes well cleaned, to restore them to health.

health. But the physician told me, when I went to the hospital two or three days after, that he was surprised I could report an infectious Fever being on board the Juno, *when there was nothing the matter with the men whom I had sent on shore*; and that, should Lord Howe be informed of it, he would certainly be highly displeased*. The consequence of this obstinate inattention was, that four of those men who were supposed to be in perfect health, died. Other men, whom I sent afterwards, were permitted to run about the hospital delirious. What further consequences this infatuation occasioned in the hospital, is left to the reader to imagine.

On the first of March, 1778, when the Haerlem cutter came into Cape Cod

* His Lordship's surgeon since told me, that it was with difficulty he prevented him from acquainting his Lordship with the matter; for which I thanked that gentleman.

Bay with the transports—sent under a flag of truce, to bring General Burgoyne's troops, which surrendered at Saratoga, from Boston—I was sent on board to see the lieutenant (now a post captain) commanding the cutter, who had been reported sick to captain Dalrymple, who commanded upon that service. I found the lieutenant, the surgeon, two midshipmen, the clerk, and three or four men and a boy, very ill of Ship Fever; and the surgeon, so far from suspecting the cause to be infection, was much surprised when I enquired where, or by what means, they caught it? On further enquiry, I learned from the lieutenant, that he had brought from the prison ship, at Rhode Island, a few prisoners, who belonged to the Vineyard, to be sent ashore there on their liberty, as an inducement to the inhabitants to allow some pilots to come off, and pilot the
the

the transports through the shoals; by which means I traced the infection to that prison ship, where I knew it was extremely virulent and fatal.

The Haerlem being immediately ordered up to Boston, the lieutenant, and the rest of the sick, were removed on board of a transport; and the surgeon of the Cerberus attended them all, except the lieutenant, who requested I might continue to visit him. For several days I in vain endeavoured to persuade that gentleman, that it was Ship Fever of which those men were ill, until I asked him if he had not perceived petechiæ on them; when he said he had not looked for any, but that he would go and examine some of the patients; and, immediately returning, exclaimed, he observed petechiæ, and that it was the true *Febris Carceraria*. He immediately prescribed bark, though spar-

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ingly;

ingly; and attributed a slight indisposition of his own, and his mate's illness, to the infection.

The agent for those transports (a lieutenant, and now a master and commander) had frequently visited on board the *Haerlem*, and had taken his servant, a boy, with him. The boy died, before I was sent for to visit the lieutenant, who was extremely bad, under my care, without the cause ever having been suspected until I mentioned it.

In October, 1778, I visited on board of a transport, at Sandy Hook, the master, and some of the people, whom I found very ill of Ship Fever; and, upon enquiry, I learned from the master, that neither he, nor the people, had been healthy since troops had been on board, a number of whom were sickly; but that he had never suspected this to be the cause of their illness.

Being in London that winter, a captain of the navy, and friend of mine, desired me to visit his servant, who lately came from sea with him. Finding the young man very ill of Ship Fever, I enquired of the nurse what the apothecary said of him. She told me that "he thought it was only a cold he had caught, and that he would be well in a few days." The medicine appeared to be saline mixture, with some antimonial preparation, perhaps, which he was taking. I desired the nurse to tell the gentleman that I would meet him next morning; but unluckily he got before me, and left with her the following message: "That he could not possibly wait for me; but had the pleasure to inform me, his patient was much better, after having *sweated* all night, and would soon be well." I found him much worse; and suspecting, from his appearance,

that he had been more delirious in the night than common, I asked her if he had not raved in the night, and for some nights before. “To be sure,” she said, “he had talked wildly for several nights, but much more last night than before.” I desired his master to get him sent immediately to an hospital; which he did: and there he recovered with great difficulty, by an abscess forming on his hip; as the young man told me some months after, when I met him: and he was then so much emaciated, that I scarce knew him. He could not recollect that I had seen him during his illness.

Certain it is, that Ship Fever appears so insidiously at times, that men of great physical knowledge have mistaken it for very slight complaints; and have been thus led to suppose, when sent to examine sick on board of sickly ships,

that many of them were only skulkers; though numbers of them were so ill at the time, that they have died soon after. Many such instances might be related, though I shall mention one only.

Near the end of the war, two line of battle ships were cruizing together; and the men of the one became so sickly, that it was found necessary to report it to the senior captain, who commanded the other ship; upon which he ordered the surgeon to go on board, and examine the state of the men's health; and, I am told, his report was, That very little ailed them. But trifling, in his opinion, as their complaints were, a number of them died before they got into port, though the ship staid out a very short time after the survey. Gentlemen employed to examine sick on board of ships, or on shore, ought therefore to be so far guarded in delivering their re-

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port,

port, as always to lean to humanity ; that, in executing such an important duty, they may display benevolent feelings as well as professional skill. 'Tis far better that many skulkers should escape with impunity, than one deserving object of distress should be lost. Besides, skulkers cannot impose long upon a discerning surgeon, at such a time.

In the year 1783 Fevers were extremely prevalent throughout the kingdom ; and had so many different names given to them, in different places, that all the technical names in the lexicon were applied to them ; though I am perfectly satisfied that it was Febrile Infection, spread by the seamen and soldiers which were then paid off from the fleet and the army.

In November, 1785 *, I was called to

* See p. 445 of the new edition of my Observations.

attend two families, very ill of Febrile Infection, in Dibden, of which one in each family died, without the cause being suspected until I made it known.

At Minstead *, a village near Lyndhurst, in the New Forest, about the end of April, 1788, I visited a farmer, whom I found in imminent danger from Febrile Infection; and the surgeon who attended him, so far from having any suspicion that it was infectious, smiled, when I mentioned to him that it was. However, the patient recovered; and upon diligent enquiry has since informed me, “ That one of the paupers of the parish, who had been in Somerset, was sent home sick, with his family, who were almost starved and naked when they arrived; that many of the inhabitants went to see them at

* See p. 446 of the new edition of my *Observations on Jail, Hospital, or Ship Fever.*

the poor-house; but that the parish officers, of whom the farmer was one, could get no person to take care of or to nurse the pauper, who died; nor to look after his family, all of whom had the Fever; that the officers themselves were therefore obliged to attend them; and that he believed he had got his sickness by that means." The infection spread through the parish, and numbers died of it; notwithstanding which, none of the farmer's numerous family were infected: which comes directly in proof of what I have said on this subject in the preface, viz. "That Febrile Infection's not being communicated to every person in a family, is no more a proof of its not existing than small pox seizing only one in a family of which a number has not had that disease, is a proof that it is not infectious." When Febrile Infection is applied for a length of time,

it becomes both the remote and proximate cause; yet the sick thus infected will not infect those who have not been exposed to remote causes, as I have often observed, particularly on board the *Rainbow*, when no person was seized with Fever but those who were exposed to the Febrile Infection for some time *.

Many more instances I could relate: but these †, I hope, will be sufficient to set the community, as well as medical practitioners, on their guard, never to make light of Fever, which is always less or more infectious, according to circumstances, and capable of attaining the most alarming degree of virulence from neglect; and of becoming plague itself, which is only the worst state of Febrile Infection.

I have not related these unsuspected

* See the *Physical Journal*, before quoted.

† The reader may see many in Dr. Lind's *Treatise on Fevers and Infection*.

instances of infection with an intention to censure the characters or memories of individuals, far less to enjoy a triumph on the occasion ; but, by putting the community and medical practitioners on their guard, that, as much as possible, such fatal effects from obstinacy or inattention may hereafter be prevented : and I hope it will be admitted, that, whatever respect is owing to the merit and characters of individuals, yet the regard due to the community is far greater ; which reflection, I trust, will shelter me from reproach for stating facts so important to mankind. No other motive would have induced me to undertake so laborious and unprofitable a task.

C H A P. II.

CAUSES WHY FEVER HAS NOT BEEN
CONSIDERED INFECTIOUS, AND MEDI-
CAL KNOWLEDGE HAS NOT BEEN MORE
IMPROVED.

IT may not be thought, perhaps, foreign to the purpose, to enquire into the principal causes why Fever has not been hitherto considered infectious; and medical knowledge has not been more improved.

These have happened, I believe; in a great measure, from the following causes:

1. Because to infection practitioners have erroneously annexed only the idea of the superlative degree of virulence; that such a disease must always be as deleterious in its nature as the plague of Athens; and, according to this idea, that

that it would sweep suddenly away almost every person that is infected; consequently that, if Fever was infectious, it would be more fatal than it is; and therefore, as it is not always so, that measles, small pox, and plague only are infectious. But attention to the foregoing instances, and to Fever, wherever it prevails, will convince them of their error. The plague is acknowledged to be the most tremendous and fatal of all diseases; but by what appellation is that disease to be distinguished, which destroys, in a few weeks, upwards of one fourth of a ship's company, as Febrile Infection did on board his Majesty's ship *Venus*, in 1777 *?

2. Either because practitioners have

* A more dreadful instance of its fatality happened on board the *Ponborne East Indiaman*, in 1765. In the space of a few weeks, after they left *Mohila*, above seventy of their people died. See vol. iv. of *Medical Observations and Enquiries*, p. 156, 157.

not taken the trouble to enquire by what means the sick were taken ill; or from their not crediting others, who have made it their study to trace the disease to its infectious source; but, on the contrary, when they were informed by them, have retorted with a sneer, “Infection! the devil! How or where should we get infection? This Fever appeared with inflammation at first; and was afterwards accompanied with *low, nervous, or malignant putrid* symptoms, with very little or no remission.”

3. Because practitioners either prefer scepticism to informing themselves by diligent enquiry; or imagine that, by wrapping themselves in the cloak of scepticism, they acquire a degree of superiority and consequence. I would not, however, have it understood that I thus consider, and much less condemn, men for not believing the *ipse dixit* of every person

person who thinks himself qualified to write and to dictate to others ; but they deservedly incur the appellation of sceptics, who pay no regard to the opinion or writings of those who adduce irrefragable proofs of their having had opportunities to become intimately acquainted with, and have been successful in the management of, the diseases in question.

4. Because some practitioners, having with great indefatigability framed an hypothesis, think it their duty to defend and maintain it at all hazard, as if it were their darling offspring. Others, no less absurdly, may have already adopted the opinion, and pinned their physical faith on the sleeve, of some author or practitioner, whom they think the only *Æsculapius* worthy to be consulted; and, standing forth like champions, say, “ Would you presume to deviate in opinion

nion or practice from the great Dr. ———?” Though the person so rebuked has acquired a far greater degree of experience and knowledge of the disease in question than their *Æsculapius*, whose reputation has, perhaps, only originated from an elegant and inexplicable theory, spun and woven with extreme difficulty in his prolific sensorium, where certainly it is impossible he could have erred, or in framing suitable rules for the cure.

5. Because some practitioners do not find it convenient to be convinced; their inclination and situation having concurred to induce them to make up and declare their opinion of the disease—how erroneous soever that was, demonstration itself, it is feared, would come too late to prevail with them to retract.

6. Because other practitioners not only persist in scepticism, but, notwithstanding

ing from their situation they have had power to do good, for purposes best known to themselves they have exerted it not only to intimidate, but maliciously to persecute, and coward-like to attack, in the dark, those who have had virtuous resolution to advance a doctrine adverse to their opinion; an opinion begot in weakness, and fostered by indolence and vanity. Against such men who can forbear to exclaim with the patriarch of old—"My soul, come not thou into their secret; unto their assembly, mine honour, be not thou united *?"

7. Because we have had too many public medical teachers who have hardly ever been beyond the walls of a city, or the town they live in, to read *The Universal Volume of Nature and Diseases*. Could the practice in a city, or an academic library, qualify gentlemen for tak-

* Genesis, xlix. 6.

ing upon them the office of medical teachers, long ere now knowledge in medicine would have attained the *punctum desideratum*, or summit of perfection. Hear medical students, when they begin to practise on this important subject! hear them regret that they have spent so much time in learning visionary theories, wholly inapplicable to practice; and then decide, reader, on the justice of this reflection, whether we have not had too many medical teachers, and too many writers of the whole *Practice of Physic*, and too few observers!

8. Lastly, because many writers, instead of coming honestly forward to public view, with a simple narration of the disease as the symptoms occurred, a faithful relation of their manner of treatment, and an accurate account of the event of this treatment, and of the cases which failed under it—they

present themselves through two very different, though equally false mediums.

The one is, instead of laying the simple narration of facts before the reader, to obtrude on him a theoretic disquisition of the disease, and to persuade him to believe that they have been so diligent as to discover a new Fever; and what immense trouble it cost them to find out the best manner of treatment, which they proceed to lay down in as positive terms as if they had not lost a patient; or if they acknowledge that they lost any, which they too seldom do, they boast that they *only* lost so many; without informing him how many in all were under their care, to enable him to judge of their success.

The other is similar to the former; with the addition of long quotations from ancient and modern authors of their own way of thinking, in support
of

of their theory and practice; as if the errors of others could exculpate their own.—Thus they sacrifice at the shrine of error or vanity all the dignity of honesty and truth, which are the principal marks of the divine image placed in man.

9. Another reason why medical knowledge has not been more improved, deserves attention, viz. the heat and animosity with which writers conduct medical controversy. Subjects which cannot be measured by the scale of demonstration, furnish great latitude for dispute*. As it is *possible*, therefore, that both disputants may be in the wrong, there cannot, on either side, be any solid ground for supercilious rancour, or positive triumph: the intelligent reader

* This is not meant to be applied to Fevers of which the universal prevalence, general similarity, and the comparative success of different methods of cure, are actually demonstrated by regular registers, and accurate arithmetical calculations, and in which there can now be no latitude for dispute.

fees this, and throws the work aside in disgust; so that, how useful soever it might have been, had a spirit of moderation pervaded it, the author's intention is defeated, and his labour lost.

10. But the greatest obstruction to medical improvement has proceeded from a general belief that the writings of Hippocrates, and a few later authors, contain all that is needful to be known for the preservation of mankind, as certainly as the scriptures contain every thing necessary to be known for our salvation. These, indeed, contain axioms in themselves self-evident; or prophecies which are every day fulfilling; or the clearest moral directions, which have a tendency to make men happy. Yet, though the ancient medical writings are spread over the learned world, do we not often see, at this day, Febrile Infection deciding the fate of empires, by depopulating

populating garrisons, mouldering armies away, and rendering the most powerful fleets inactive? Have not the same things happened in all ages? Would they ever have happened, had those writings contained any knowledge of Febrile Infection, or of the means to cure it?

C H A P. III.

THE MEANS TO DETECT FEBRILE INFECTION, AND TO DISTINGUISH IT FROM OTHER DISEASES.

IF the reader will attend to the descriptions of Fever in the Physical Journal *, and in the Observations on Jail, Hospital, or Ship Fever †, as well as to the following circumstances, and symptoms, which I term diagnostic and patognomonic, I believe he will seldom, if ever, fail to detect and distinguish Febrile Infection.

1. When one or more in a family, or in any larger society, whether school, college, university, religious seminary, regiment, on board of ship, or elsewhere, complain of Fever—and whether the

* Pages 11—16, 134—136.

† Pages 13—18, 153—182, 333—335.

symptoms are less or more severe—preclude not the necessity of enquiring, with all possible strictness, if they have been seeing, or in company with, sick ; or in any part where sick have been ; or with people who have been visiting or attending sick ; or if they have lain with such people, or with the sick ; or if they have worn sick people's clothes ; or if they have lain in bed clothes, or beds, which the sick lay in ? Should the answer be in the affirmative, there will be no reason to doubt of their being infected ; and suitable methods to render it as mild as possible, and to prevent it from spreading, cannot be too speedily adopted. Should the answer be in the negative, the circumstances previous to their being taken ill, both as to temperance and exercise, season and climate, &c. are to be diligently enquired into ; and the symptoms about the sick attentively con-

E 4 sidered,

sidered, as well as the patient's constitution.

2. To the experienced and discerning practitioner, the state of the countenance exhibits the most certain diagnostic and invariable pathognomonic symptom of the degree of virulence of the infection, which becomes almost hourly more and more obvious; and the more obviously it is diseased, the greater danger the patient is in *. There is a *je ne sais quoi* in it, expressing more disease than the patient generally complains of, or can be conveyed in words. To say the countenance is either greatly dejected or depressed, is not enough: much more is discernible to a person who reads it carefully; much more, at least, is obvious to a person who is well acquainted with Febrile Infection.

* Dr. Lind has made the same remark on the countenance.

3. Rigors, or chilliness succeeded by heat; or alternate chills and heat in a less or greater degree, and for a short or longer duration, are generally the harbingers of Fever.

4. The head is affected, almost invariably, with some degree of pain, heaviness, or confusion.

5. Retching, less or more, or sickness at stomach, seldom fails to accompany the chilliness.

6. Universal pains, or, as the sick express themselves, *pains all over them; or wandering pains; or pains in all their bones, or in their joints, but especially in the small of their backs*, are very early concomitants of Febrile Infection.

7. Debility and lassitude are less or more complained of from the moment they are first seized.

These are the symptoms chiefly complained of at first by the sick, and according

cording to their mildness or vehemence shew the degree of virulence of the infection; and therefore I term them Diagnostic, or Pathognomonic. It is true many other symptoms* often accompany Fever from its commencement; but, as they are rather exceptions from the primitive symptoms, I omit them here, and beg leave to repeat,

That, whenever men on board of a ship, or in a regiment, or in any society or family, fall down, and complain of being seized with rigors, or chilliness, or alternate chills and heats, headaches, heaviness or confusion of the head, sickness at stomach, or retching, universal pains, or, as the sick express themselves, *pains all over them; or pains in all their bones, or joints, especially in their loins and*

* See the passages last quoted in my Physical Journal and Observations.

backs, and with less or more debility; and if their countenance is at the same time obviously diseased—whatever the other symptoms accompanying these are, I can, from experience, assure the reader, that a most virulent infection is present.

If it is further observed, in the course of the Fever, that they who attend, or have communication with, the sick, are seized with similar symptoms; and if the sick, after arriving at a convalescent state, are not only very long in recovering perfectly, but are found liable from the slightest cause to relapse, they must have very little discernment who doubt of there being a most virulent infection present.

It may, however, be said, that these symptoms, the state of the countenance excepted, which I have laid down as the diagnostics of Febrile Infection, are
similar

similar to those which introduce the eruptive Fever of small-pox and measles *. But (though they are not exactly similar) was this a generally received position, it would fully answer my present purpose ; because, by acknowledging them to be concomitants of infectious diseases, they would soon know whether it was Febrile Infection, small-pox, or measles ; and would exert themselves to render the disease as mild as circumstances would admit : a matter of great importance to the sick, as well as to society in general.

* It is difficult to draw the line of distinction between them.

A N

ESSAY ON FEVER.

P A R T I I I.

C H A P. I.

A SYNOPTICAL VIEW OF THE AUTHOR'S
OBSERVATIONS ON FEVER, FROM THE
BEGINNING OF 1759 UNTIL THE END
OF SEPTEMBER 1789.

BEFORE I begin with the practical
doctrine of Fever, I shall first lay
before the reader a Synopsis of my Ob-
servations on the subject for upwards of
thirty years, which I trust will sufficient-
ly

ly apologize for my temerity in placing my opinion on so important a subject in opposition to the doctrine hitherto taught in the schools.

The earliest case of Fever of which I have any distinct recollection, and was particularly interested in the successful termination of, happened during my apprenticeship; the patient recovered, tho' it was managed in the tedious old way, with diaphoretic antimony. I had heard then that Fevers of the intermittent type were to be cured with bark; and as this case was one of that class, I could not conceive why it was not administered; but I suppose the physician thought it was *to be left to nature*, though at the same time he judged it proper to check and assist her with vomiting, purging, and sweating occasionally—consequently the patient was long in recovering.

The first case of Fever of which I have
any

any notes, occurred in June 1759—Pat. Gray, aged about 40 years. This man died of a relapse, which was the state I saw him in, and palpitation of the heart was now the most distressing symptom; for which, from thirty to forty drops of sp. c. c. lavend. c. a 3ij. tinct. castor. 3i. mixed together, were given in a little water, when the paroxysm returned. Bitters and deobstruents were afterwards prescribed ineffectually.

But the first Fever patient whom I ever had the management of, was a man on board of a Greenland ship, which I was surgeon of in the year 1760. The case was an intermittent, and he was cured by a vomit and bark.

In September 1760 I was appointed surgeon's mate of a cutter, on board of which I had no Fever patients; and in January following I was removed to his Majesty's ship the Prince of Orange, of
sixty

sixty guns, and four hundred men, where the following cases occurred :

John Bridgeman, aged about 38 years, complained, March 14, 1761, of Fever, accompanied with pain of his side, which very unfortunately was considered pleuritic ; as repeated bleedings were ordered, and medicines of the class of pectorals were persisted in, until the strength was exhausted, and the dyspnœa was thought relieved. Livid blotches appeared ; and the throat becoming violently affected about the 15th day of his illness, was also unfortunately considered venereal. He was again let blood ; purges were repeated ; lambents, and a pill composed of pil. plumer. gr. ij. opii gr. i. at bed-time was prescribed ; and he died the 5th of June following.

John Williams, aged about 19 years, after having recovered from obstructions of the liver and nephritis, complained

in April 1761, of Fever, of the intermittent type, for which bark was prescribed; and he recovered in a few days. But I thought the dose prescribed was too little, and too seldom repeated, and therefore increased the dose of the bark.

David Robethon, aged about 28 years, complained of Fever in April 1761. The most afflicting symptom was diarrhæa. Delirium came on the 10th day of his illness; subsultus tendinum and black tongue the 11th; stupor the 12th; the pulse was quite sunk the 17th; he began to get better the 19th; the pulse, though hardly perceptible in the right wrist, was very distinct in the left. He recovered of the Fever, but died soon after of consumption. The treatment of his patient was the antiphlogistic: he was let blood four times, and took antimonials. When he arrived at a
F convalescent

convalescent state, bitters were prescribed *.

On board of the same ship several patients were seized with pleuritis, as was thought, and died; though the antiphlogistic method was steadfastly pursued.

The small-pox also were brought on board; and, of five patients who had them, two died.

About the fall of 1761, during a long cruize in the Bay, the scurvy made its appearance; and before we returned to Belleisle, the place of rendezvous, there were nearly 100 on the sick list, chiefly scorbutic patients, of whom one died. Had not the ship's company been strong, healthy, sober, seasoned seamen, many more would probably have been ill.

The medical practice on board this

* There were some other Fever cases, but so slight, that they were not considered of consequence.

ship, was the general practice. Whenever a patient complained, he was let blood; the consequence was, that, of three Fever patients, two died; the other recovered by taking bark.

Being in a bad state of health, I left this ship in the winter of 1762, and embarked, in the spring 1763, on board of a frigate (the *Terpsichore*), which was employed on a healthy station. This ship being highly disciplined, and the men young and picked, very few Fever cases occurred. One, however, who was very ill, recovered by the liberal use of bark, which I had an opportunity of administering as I pleased, by the surgeon's being sick at the time. My patient has been very grateful ever since for my attention to him. The ship was paid off in the beginning of March following.

In the summer 1764 I was appointed to a guardship at Plymouth, on board

of which I continued near two years : but having particular directions to send medical cases, especially those ill of Fever, as soon after they complained as possible, to the hospital, I had no great opportunity to make observations ; but I had the advantage of seeing the practice of the hospital, which was the general practice in Fever, viz. the antiphlogistic, antimonial, and camphire. As soon as Fever patients complained, they were let blood and evacuated ; but there were few other medicines, and no bark on board. The quantity of bark on board of the ships to which I had hitherto belonged, was very small.

About the end of July 1766, I was removed on board the Adventure frigate, employed on the Jamaica station ; to which ship I belonged until about the 17th of July 1768, when I was again removed

moved on board the Preston, the admiral's ship. The surgeon of the Adventure, Mr. Daniel Price, was much more attentive to his business than any one I had hitherto sailed with, and had more medicines. He had been in hot climates before, and used the bark more liberally than it was used in common practice ; but not so liberally as to equal my idea of giving bark. Therefore, whenever I had an opportunity, I gave it oftener, and in larger doses, than I was desired.

This frigate, while I belonged to her, was very healthy, considering the station. In my notes, I have a particular account of my own case, which was of *the slow, nervous type*, as it is named by authors. After common evacuations, and repeating saline draughts, for several days, I was not relieved : James's powder was therefore prescribed ; but it produced

no other effect than a few minutes suspension of all uneasiness and pain. Tartar emetic, gentle aperients, clysters, and refrigerants, were not more effectual; but, after a very slight hæmorrhage from the nose, there was a remission, and I recovered by taking bark. This happened in September 1766.

Soon after I was sent on board of the Ferret sloop, at Pensacola, as acting surgeon: the surgeon was sick on shore. During our short cruize a dreadful storm came on, that made it necessary to cut away the main and mizen mast, and fore-top mast; after which, though now returned into port, the scurvy made its appearance, and some of the people were very ill of it. While I belonged to this sloop, the acting lieutenant was, and had been long, ill of Fever, which had frequently changed its type; and of which I cured him perfectly with bark, on shore,

shore, at the governor's house, where he had lived a considerable time before.

After returning to the frigate, I left her to go on board the *Preston*, as before mentioned. The admiral's boat's crew, which was generally on shore at Greenwich * in the day time (and sometimes accidentally all night), attending the admiral, were seized with Fever, which proved fatal to a number of them; one of them died under my care, when I thought him in no danger. His unexpected death made a deep impression on my mind; more especially as the other patients had died nearly in a similar way, under the care of the surgeon, who had been accustomed to the country, and had often had under his care Fever patients from Greenwich. But I attribute

* Though it is a remarkably unhealthy spot, the naval hospital was built there formerly; but it proved so fatal to seamen, that government built another at Port Royal, in a very healthy situation.

their deaths solely to this one circumstance—bark was never administered to them; because, according to the universal idea of Fever practice at that time, “sufficient evacuations had not been made; there was no intermission or violent exacerbation; it was too early in the Fever, and the patients did not seem bad enough.” Indeed my patient was walking about, and appeared to ail very little the day he died; and it was the same case with most of the other patients who died.

On the 17th of November 1768 I was appointed surgeon of the Diligence sloop, which was soon afterwards sent to England, and paid off in May. The people were very healthy, notwithstanding the weather was so bad on the passage to England, in part of February, March, and beginning of April, that provisions could not be dressed for them
in

in the coppers for nine days successively.

While I was at Jamaica, I had an opportunity to see the hospital practice, which differed in no respect from the general practice.

Hitherto I thought that, in treating Fevers as I had seen them managed, and after the method recommended by some of the best authors, I was perfectly right, and my mind was easy as to the consequence ; for I considered that it would have been more than presumption to have deviated from the beaten path in managing them : but in the beginning of June 1769, when I was appointed to the Weasel, going out to the coast of Africa, deeper reflection began to employ my thoughts. The patient's case which terminated fatally so suddenly under my care on board the Preston, at Jamaica, recurred to my mind ; and the
general

general opinion of the sickliness and danger of an African voyage, no doubt, had its weight. I therefore laid in double the quantity of bark *, which had been sent from the Hall for that service, during the most improper season of the year, which unluckily it was. The account of the Fever which happened on that service, and the manner in which it was treated, the public are already in possession of†. The few cases in which the bark was given liberally, recovered; but the mortality under the other treatment was great: and it is remarkable that it was equally great on board the Merlin and Hound sloops, which were on the coast at the same time, under the same treatment,

* At Teneriff, where we touched on our way out: for, after I joined the ship at Spithead, we sailed so soon that there was no time to get any thing on board there. I was obliged to take every thing as I found it in the possession of the gentleman whom I superseded.

† See the Physical Journal.

without

without bark. However, it deserves to be noticed, that five of the ten who died on board of the Weasel, were gentlemen who had never been in hot climates, and only one or two of them had ever been at sea before *. Early in Jan. 1770, I was removed to the *Æolus*, a thirty-two gun frigate; 180 men at first, afterwards 200; employed on the Newfoundland station, thought a very healthy one; but, for the reason mentioned in chap. i. part ii. of this Essay, it proved unhealthy to this ship's company. My practice was the general, or antiphlogistic, which interdicts the administration of bark in Fevers, except those of the intermittent type, and in such as are brought to remit distinctly, i. e. until signs of *coction*

* Of 67 Fever patients 11 died; and one convalescent, of consumption— $1-6\frac{5}{2}$. The complement was 80. See the Physical Journal, part i.—While we lay in Gambia river, I was sent for to visit an officer in the fort, ill of Fever, from *un coup de soleil*.

appear. The consequence was very unsuccessful practice*.

I was appointed, the 6th of April 1771, to the *Arrogant*, a line of battle ship; the complement six hundred and fifty men; which was paid off in July following. The ship being all this time at Spithead and in Portsmouth harbour, we had few men ill; and these, by the captain's directions, were sent to the hospital. In December I was appointed to the *Rainbow*, then under sailing orders for the coast of Africa; and the wind coming fair before my medicines came down from London, I was obliged to make a formal application to have the ship detained till they arrived. With much difficulty the commander in chief

* For of twenty-one patients two died, and seven were sent to hospitals. Of the twelve who recovered, four took bark, but not before the sixth day of their illness; and then it was administered only as a bitter or tonic.

at Portsmouth allowed the ship to stay ; and was highly displeased with me, until the captain explained to him that it was was no fault of mine. The admiral wanted me to purchase medicines in Portsmouth, which I would not do without his written order; but he did not think proper to give one: and as I would not do it otherwise, he wanted me to get medicines from surgeons of the guardships; which I refused to do, for the reasons I assigned to him. One of them was, " That from experience I knew the mainmast was not more essentially needful on board, than medicines which could be depended on, were on that service." It was fortunate for the ship's company that I was so positive; for they were attacked with fever three different times *. It was there I entirely threw off (almost)

* See the Physical Journal, part ii.

the fetters and prejudice of education; and, without regarding the interdiction of all writers on this subject, I administered bark more early, more liberally, and more successfully, than it had ever been before in any climate whatever; for of 290 Fever patients not one died. Three died only, during the three voyages which the Rainbow made while I belonged to her; and neither of them took any bark. Had I not disregarded the most respectable authors on the subject of Fevers, many of my patients must have become a sacrifice to their doctrines of genera, and their treatment of Fever; which are calculated only to perplex and mislead. Even Cleghorn's treatment of Fever, though the least exceptionable of any author I had ever seen*, was in fact nugatory; and Dr.

* Dr. Millar, that singularly eminent physician's Observations on the Prevailing Diseases of Great Britain, were published in 1770; though I knew nothing of it until 1779.

Lind, for whom I have always had a great esteem as a physician and friend, unfortunately looked for the cure of Fevers, where it never could be found, in the antimonial kingdom *.

On board the Rainbow I had an opportunity of seeing and knowing the medical practice at our chief settlements on the coast of Africa; as well as at the Antigua and Jamaica naval hospitals. In the month of June 1774, at Jamaica, I

* In the three cases, however, which terminated fatally, I very unluckily followed the general practice of all ages: in one a youngster could not be prevailed on to take medicines, because no danger was indicated until it was too late; and in the other, because it appeared with dysenteric symptoms, in a worn-out constitution. Indeed there was another reason which had too much weight with me — A medical friend had indirectly accused me of rashness, for administering the bark too early on board of the Weasel. While I belonged to the Rainbow, I also made trial of administering bark with wine, as a preventative of Fever on the coast of Africa; which has ever since been allowed to his Majesty's ships employed on that service.

was seized with violent Fever, and cured myself with bark. In September following, the ship was paid off; from which time until next August I employed myself chiefly in compiling my Physical Journal, without soliciting practice.

In the beginning of August 1775 I was appointed to the Deal Castle, twenty gun ship, fitting at Sheerness *; and left her in December to go on board the Fox frigate of twenty-eight guns: to which ship I only belonged five weeks, and she was then fitting in Portsmouth harbour.

On board the Deal Castle I had twelve Fever patients, two of whom were sent to sick quarters while she was fitting; the rest recovered under the bark treatment: There were but few hands on board the Fox, and I had no Fever patients.

* At this time the influenza was epidemic.

In January 1776 I was removed to the *Juno*, of 32 guns and 200 men, fitting at Portsmouth; and the 4th of April we sailed with a convoy for America. In the course of the service on which that ship was employed, I had an opportunity to see Fever in various parts, and of knowing the difference of success between the antiphlogistic and bark treatment; and at one time on board of the *Juno*, from the want of that necessary medicine: but I have been so full on this subject in my *Observations* *, that I refer my reader to them. On the 29th September 1778, the pay of the *Juno* ceased; and in the end of November following I arrived in England: but, for particular reasons, I was not employed until the 24th May 1779, when I was appointed to the *Edgar* of 74 guns, and

* See Part I. of the new edition, which the reader is always referred to.

600, sometimes 617 men, besides supernumeraries, building at Woolwich. The manner in which the medical practice was conducted on board of the Edgar, from the period mentioned until the 7th of May 1782, the reader will see in the Observations*.

On the 8th May 1782 I went on board the Romney, a fifty gun ship, 367 men; and belonged to her until the end of December following. On board of this ship, in a few Fever cases, accompanied with acute pains about the thorax, proceeding chiefly from old hurts, I deviated from my usual practice in Fever, by taking away a little blood, which was of no benefit to them†.

January 1, 1783, I was removed to the Blenheim of 90 guns, of 767 men, besides supernumeraries. This ship was

* See Part II.

† See Part III. page 418.

at first very sickly : though she was only about fourteen weeks in commission after I belonged to her, there were 157 Fever cases, of which I have an account ; and part of my journal was lost. All that number, indeed, were not equally bad ; a number of cases appeared slight ; but, under this deceitful appearance, they were not to be neglected.

From the beginning of April 1783, until the 18th June 1786, I practised in a country where Fever is endemial—a part of Hampshire, bordering on the New Forest—and resided at Hythe. I then went on board the Salisbury, a fifty gun ship, of 337 men, to Newfoundland; and returned again to Hythe about the middle of November : and this voyage I repeated, and returned back to Hythe nearly about the same time, in 1787 and 1788 ; during which period, and until

the present, I had opportunities to see and manage many Fever patients *.

It was not my intention to lay before the reader, in this View, an accurate statement of my practice (for I have had many Fever patients in places which I have not mentioned), nor the success which attended it; that being already done in my Physical Journal, and Observations, to which I refer him.

But from what has been said he may derive some information of no trifling importance; he may also perceive that I have not dared to reject ancient theories *rashly* or *precipitately*, but have raised my new doctrine on the sure basis of long and extensive experience.

* For a particular account of my practice during the time mentioned, see the Observations, Parts V. and VI.

C H A P. II.

REMARKS ON THE REMOTE CAUSES OF
FEBRILE INFECTION.

HAVING, in the *Physical Journal*, in the *Observations on Jail, Hospital, and Ship Fever*, and in the preceding parts of this *Essay*, compendiously stated the theoretic doctrines, genera, and treatment of Fever *; and having shewn the futility of the first of these, the impossibility to establish the second, and the dangerous consequence of the last; I shall, without further apology, lay before the reader my thoughts on the remote causes and doctrine of Fever; rest-

* If it is considered how often these have been refuted, affirmed, controverted, renewed, and new-modelled, for centuries past; and if their inefficacy, and even their fatality, when they are applied to practice, are considered; the impropriety of supporting them will be seen irresistibly striking.

ing the evidence, I trust, on clear philosophical induction, from upwards of thirty years observation and experience, in three quarters of the world. As it is however with real diffidence I thus presume to deliver my thoughts on a subject equal, in its importance to mankind, to any that can be discussed; I hope that, however deficient I may be in manner, the design will be favourably received.

From my observations and experience it appears obvious, that marsh effluvia, cold and moisture, heat and moisture; or human effluvia in jails, hospitals, camps, or ships; are the most powerful remote and proximate causes of Fever*.

* See the Physical Journal, and the Observations on Jail, Hospital, and Ship Fever; Dr. Lind on Hot Climates, and on Fevers and Infection; Sir John Pringle's Observations on Diseases of the Army; and Doctor Millar.

That,

That, besides these great sources of Febrile Infection, there are many other remote causes. Fear, when Fever is prevalent, is observed to operate very powerfully on those who are contiguous to the sick, and even to induce Fever: intemperance in eating, as well as in drinking; excessive fatigue; slothful indolence; immoderate venery, sleep, watching, or study to an immoderate degree; inordinate application of the mind to any business; neglect of, or improper apparel; or exposing the body to an unusual degree of cold, or heat, or wet, or drought—all prove, in a greater or less degree, remote causes of Fever; and even proximate causes, according to circumstances. *A coup de soleil*; any sudden transport of passion, as joy or grief; or any external injury done to the body—sometimes are immediate or proximate causes of Fever, as well as remote causes.

It is difficult to distinguish between remote and proximate causes, in many cases.

In a word, whatever has a tendency to debilitate the system, may either be a remote or a proximate cause of Fever, according to the constitution of the patients. The pre-disposition is so gradually effected, sometimes, as not to be perceived.

The idea of Fever being epidemic, or that it arises from any atmospheric infection or contagion, where none of the causes of Fever before mentioned are existing, I believe is ill-founded: because a more philosophical reason may be assigned for many people being seized with Fever at the same time; which is, their being exposed to the same debilitating powers of either uncommon heat, cold, drought, or wet; or sudden changes of these, which have great influence on
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the animal and vegetable article of diet and water; without the supposition of infectious animalcula, miasmata, or any specific noxious property in the air.

That there is something peculiarly noxious in unventilated air, arising from or suspended over animal, vegetable, and aqueous matter—but more especially from a mixture of them in any place—every person knows; and although such an air may be suspended within a certain distance of the horizontal plane of marshes, overhung by reeds, bushes, sedges, and other aquatics, under which both animal and vegetable matter dies and putrefies—I conceive that the principal reason of people being subject to Fever, who live near to marshy ground, depends on the cold and moisture of the air, when it is blown upon them by certain winds: and, during their continuance, the air acting upon the body

as a bath, and being constantly inhaled into the lungs in respiration—are sufficient to debilitate them, and induce Fever, without admitting the idea of miasmatic effluvia being the cause of it. This much is at least obvious—that air suspended over marshes is both colder and moister than the air in the adjoining country *: and the effect of either colder or moister air, and more especially of them both, than we are accustomed to live in, is well known to everybody. A damp room, or a damp bed alone, seldom fails to induce Fever. That people living in the neighbourhood of marshes are more subject to Fever at one time of the year than another, is owing to the wind's blowing the cold moist air upon them from the marshes :

* This seemed to me to be the cause of the Rainbow's people being seized with Fever at Sierra Leon and St. Thomas's.—See the Physical Journal.

and the hotter the weather is, the greater is the effect which this air has upon people; because then it is so much colder than the circumambient air. But though this is generally the case—and that I do not suppose unventilated air can be carried to any distance, by winds, in its noxious state, to induce Fever—there may arise from marshy grounds long burnt up by the sun, after heavy rains, in hot countries, extremely noisome exhalations; which I think cannot however, I say, be carried but a little way before they are dispersed by winds, and so rendered harmless; and therefore that sickness, in these neighbourhoods, is occasioned in hot countries in the same manner as in colder.

C H A P. III.

THE PRACTICAL DOCTRINE OF FEVER.

AS all the theoretic doctrines, and the treatment of Fever deduced from them, have always been at variance; and as the practice, with few exceptions, has consequently been unsuccessful; it was absolutely necessary to look for another foundation to build the doctrine of Fever upon: and the only philosophical one which presents itself is *induction* from practice, which has been found successful in all the quarters of the world *: and hence the doctrine of Fever appears,

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* See Dr. Millar's Observations on the Prevailing Diseases of Great Britain; and his Observations on the Management of the Prevailing Diseases of Great Britain.

Dr. Clark's Observations on Diseases incident to Seamen on Long Voyages, particularly to the East Indies.

The Author's Observations on Fever on the Coasts of Africa,

1. A diminution of that *energy* implanted by divine wisdom in every man, for maintaining the equilibrium, or healthful state, of his general system.

2. That Fever is an idiopathic disease, and perfectly distinct from all others, under its proper character, or generic title, *Febrile Infection*.

3. That Febrile Infection has been the same in all seasons, climates, and ages; and always less or more infectious.

4. That the genera and species of Fever met with in authors, and vainly attempted for thousands of years to be established in the schools, are only chimerical; have had no real foundation; and have ever been fallacious, inapplicable to practice, and contradictory to experience.

Africa, America, and Europe, in his *Physical Journal*; and his *Observations on Jail, Hospital, and Ship Fever*.

Some other proofs can be adduced.

5. That all the different appearances of Fever, from the most simple and distinct intermittent, to the most continued type, are only modifications of Febrile Infection. Provided, therefore, that the same *principle* of treatment is attended to in all of them, I am regardless whether these appellations are retained or not in practice.

6. That in like manner all the diversity of symptoms, many of which have been erroneously applied as distinguishing marks of different species, are incidental; depending either on the age, sex, season, climate, and other circumstances attached to the situation and condition of the sick, their constitutions, or on their medical treatment; and not upon any specific difference of Fever, which is every where, and under every appearance of type or symptom, various modifications of Febrile Infection.

7. That

7. That although Febrile Infection is always less or more contagious, it does not follow that it may not originate except from infection; for, on the contrary, daily instances of Fever terminating in the most virulent degree of infection (which originated from very insignificant causes—a slight contusion, a simple surgical operation, or a broken shin; as it is vulgarly termed) occur, in constitutions previously disposed.

8. That the energy which maintains the equilibrium, or healthful state, of the general system, in other constitutions, is so perfectly complete, that they are not only exposed to all the remote causes of Fever, and the different sources of infection, without being infected; but, likewise to the insertion of infectious matter into the system (as by inoculation for small-pox); and the most violent external injuries, even the loss of extremities,

ties, without suffering more than what is called Symptomatic Fever, which is understood to be necessary to the eruption and suppuration of variolæ, and the digestion of wounds.

For what the effects of the diminution of the energy which maintains the healthful state of the system, are, I refer the reader to Chap. II. Part II. and to what follows. As to entering upon a metaphysical disquisition, or definition, in what manner the laws of the economy are affected, either by infection, or other causes which induce Febrile Infection; or by what means it is that the same disease assumes such various appearances; I know no more than why grass is universally green: and therefore leave this study to those who delight in it. For my own part, I acknowledge that none of their writings have afforded me either pleasure or instruction.

C H A P. IV.

REMARKS ON THE PRACTICAL DOCTRINE
OF FEVER.

1. **O**F the essence of this energy, or vis vitæ, I am perfectly ignorant: nor do the terms of *irritation* or *excitement* afford me the least assistance. Satisfied that Providence has enabled us, by observation and experience, to repair this diminution, let us not be over anxious or inquisitive to know what is beyond our reach. Of Fever arising from inflammatory diathesis, as in pleuritis, gastritis, &c. it is not my intention to treat.

A man who has the exercise of his mental and corporeal faculties, is in this state: or, to speak technically, while the action of the solids and the motions of

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the fluids—while the ingesta and egesta, and the secretions and excretions, are regularly maintained, and in due proportion to one another, with the enjoyment and exercise of the mental powers, man is in a healthful state.

4. If this is denied, I desire to be informed why these genera and species are not yet defined, and why a certain and successful plan of treatment has not been ascertained for each of them? That this has never been accomplished in the schools, though thousands of years have passed since the commencement of medical practice, is an incontrovertible fact. The various theories, and the thousands of volumes which have been written to support some and refute others, have thrown no light on the subject. Theory bewildered and misled all its votaries; and the reason is obvious. Physicians have employed their studies and thoughts
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on a favourite visionary problem, searching for the appearances and symptoms of Fever in occult causes, or every where but where they were to be found—in the patient's constitution, and the circumstances about him. No wonder then that their practice was unsuccessful.

6. I am aware that many readers may advance, as an objection to this new doctrine, that terms will be wanting to discriminate Fevers; as they say "that there is not only a necessity for them, to direct us in practice, but that there is a real foundation in nature for such distinctions:" which I am ready to grant, provided they can mark out, and clearly define, those terms; but, until they do this, I am obliged, on the ground of my observations and experience, to refuse my assent to subscribe to so trite a proposition. It is almost needless to say, that no loss can be sustained by giving up the use of

terms so indefinite, as do not express nor explain the ideas of which they are the signs; ideas which indeed are only phantoms, and could therefore answer no other purpose than to perplex and mislead the practitioner, which they have invariably done. I consider Plague only as the most virulent modification of Febrile Infection, exalted to that degree by a concurrence of many circumstances already mentioned in the Preface. Even the pathognomonic symptoms in Chap. II. Part II. are hardly exceptions.

7. These instances plainly shew that the constitution of the sick is always to be regarded, let the cause of Fever be ever so trifling.

8. I am of opinion that most if not all the diseases to which mankind is subject, are the effects of our forefathers intemperance and indiscretion, or of our own; and therefore, in contemplating this stupendous

stupendous subject, “ the energy which maintains our healthful state,” as an emanation of supreme wisdom and goodness, that the reader must be naturally led to humility, and contrition for the depravity of mankind, in having marred, and too often destroyed, this inestimable blessing; and rendered ourselves not only subject to such diversity of diseases, but entailed their consequences on posterity. Far from considering diseases therefore, as many do, a divine visitation or punishment for sin, though therein divine justice would have been manifest, I view them only as the natural consequence of health injured or ruined by the folly and indiscretion of man. As I impute a complete time-piece’s becoming irregular, to the person’s mismanagement who had the care of it; in like manner I consider bad health (generally) as the consequence of the sick’s

misconduct or negligence in preserving good health.—To the most intelligent and devout it has ever been a subject of astonishment, that man is so wisely formed and fashioned, that his system should so long withstand the many shocks to which his imprudence and indiscretion expose it: and by parity of reasoning he is insensibly led to contemplate the original state of his moral perfection, or the divine image implanted in man, which he has degraded, and in a great measure defaced; and with self-conviction, and real contrition, to ascribe the difference between this and his present state wholly to himself. From these reflections I trust nothing derogatory to revealed religion can be inferred.

Such instances have induced physicians to say very erroneously, that “the Fever” of which they are treating “was
not

not infectious." But does not the same thing often happen to people (who are contiguous to, and attend upon, small pox patients) who have never had the small pox, and are not infected, nor cannot be, even by inoculation, because there is no predisposition in their system to be infected? Yet does any person doubt but small pox are infectious?

The manifest difference between the distinct and confluent small pox, affords a happy illustration of this and the preceding head*; for whether the eruption is distinct or confluent, entirely depends on the constitution and management of the patient infected. If the diathesis were sthenic, and the inflammation to seize any vital organ, it might very soon become fatal, unless it were moderated by antiphlogistic treatment; and when the patients have been properly

* 7. and 8.

prepared for inoculation, no more Fever ensues than is necessary to complete the eruption, and concoction or suppuration of benign and distinct pustules. If the diathesis is asthenic, unless the energy, or vis vitæ, be properly invigorated and supported, the patients will sink under Febrile Infection, which will accompany innumerable pustules. The benefit therefore derived from inoculation is, in regulating and restoring the equilibrium of the system, whether superabundant or deficient. When this is neglected, what a dreadful train of symptoms ensue! Hence the various names which authors have applied to small pox—ichorous, crystalline, black warty, &c.

In asthenic small pox, then, it is evident that two very distinct infections exist, and may communicate small pox to a person who has never had them, and Febrile Infection to one who has
had

had them. The same remarks will apply to measles.

From the number of ignorant itinerants who now undertake to inoculate, I should not be surprised if inoculation was to fall into disrepute.

C H A P. V.

OBVIOUS REASONS WHY FEVER IS MORE
EASILY CURED IN HOT THAN IN COLD
CLIMATES.

AUTHORS are pretty well agreed on this head; but, in my opinion, none of them have bestowed so much attention on it as it merits: for it is of real consequence, in practice, that these reasons should be explained; which I shall therefore endeavour to do more fully than I have met with it in any author.

In hot climates, sick, whether in private houses or in hospitals, on shore or on board of ships, seldom lie with more than a sheet over them, and very little woollen about them. Indeed people in health sleep much in the same way: and on board ships seamen there seldom lie in their hammacs, if they can find
any

any place to spread their bedding on; which they generally do, and sleep in their frocks and trowsers upon the bedding, without any other covering. A frock and trowsers, a cap and shoes, are the common apparel of sailors in hot climates, of which they have a change or two: and for their own comfort, when they are too lazy to wash them every day, they rinse them overboard, or in sea water, and dry them in the sun; which they also do for one another when they are sick. When they arrive at a convalescent state, whether they are at an hospital or on board ship, there is very little difference in their dress: instead of a frock they wear a shirt, and a thin jacket without lining.

The inhabitants on shore are chiefly dressed in very thin cloth coats, without linings; and linens, nankins, dimities, or silks and muslins, and thread or silk stockings.

ings Their linen is often shifted. Their beds are hung with muslin or gauze, and they sleep with a sheet and thin counterpane over them ; so that their bedding is easily aired in the sun, or washed, which is frequently done. Besides, their houses are airy, being built with care to receive a thorough draft of the sea breeze, or most prevailing wind, in the day time ; and they are as careful to exclude the night or land wind.

Ships, from the mildness of the climate, are much better aired, and better cleaned, than in colder climates ; so that people on shore, or on board, breathe a purer atmosphere in hot than in cold climates.

These are the principal advantages which the well and sick derive from their situation in hot climates, and they are certainly great advantages ; to which may likewise be added another of some

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consequence — the difference between the medical practice in these climates and our own. Diseases, in the former, especially Fever, terminate more speedily fatal than in the latter: physicians therefore are compelled to be more early active there than they are here, with their doctrines of despumation, depuration, and concoction, and critical days, which are good technical terms for improper procrastination. But their practice is on the same erroneous principle, in other respects, as it is in colder climates. There are diseases certainly in which physicians may discover profound judgment, by patiently and attentively observing their progress, and watching for a favourable moment to act: but such delays in Fever are dangerous, if not criminal; because experience has convinced me that more can be done for the patient within
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the first twenty-four hours of Fever, in any climate, than in many days after, admitting every thing to go on favourably. Words can convey no idea of the advantage arising to the sick from an early and liberal use of medicine in Fever; as well as pleasure to the physicians, from having it in their power to prescribe from the beginning. *Obsta principiis* is in no disease so applicable as in Fever; for one day lost in treating it, is too often never to be redeemed.

From the moment sick are seized with Fever in a cold climate, they begin to breathe in an infectious atmosphere; which, from the nature of their dress and their bedding, and from the confined air in rooms on shore, as well as on board ships, is unavoidably continued, and daily rendered worse, until they either recover, or warm weather sets in, which enables them to wear fewer woollen

len clothes and blankets—the most effectual retainers of the infectious effluvia which are constantly thrown off from the general surface of the body, by perspiration as well as by respiration. It is also to be observed, that many particles of these effluvia are momentarily taken into the circulation again by the absorbents, and are continually acquiring a more exalted degree of virulence. Besides, many common people, in cold climates, do not change their linen oftener than once a week, if so often: but all these evils are concentrated in the beds and bed-rooms, in cold climates, from the quantity of blankets, which are either very seldom cleaned or aired, and never shifted more than the curtains: and the bed-rooms are generally small, not properly aired, nor kept sufficiently clean.

These circumstances, if duly considered, will be allowed to explain satisfactorily

rily why Fever is more easily cured in hot than in cold climates ; without erroneously supposing that there is any specific property in the air of hot climates, to resist or overcome Febrile Infection. Experience has often proved, that unless a proper use is made of the advantages, as stated, peculiar to hot climates, either on shore or on board ships, during sickness—so far from heat being a benefit, it is an additional calamity. A recent instance of this happened at Jamaica, in 1782, on board of some of his Majesty's ships of the fleet under the command of the victorious admiral, now Lord Rodney, after the defeat of the French fleet.

I am aware that it is an advantage in practice, in hot climates, that perspiration is more easily kept up than in a cold climate ; but proper treatment very easily surmounts this local disadvantage.

C H A P. VI.

S E C T. I.

EXORDIUM.

IT will readily occur to every intelligent reader, how difficult the task must necessarily be to describe Febrile Infection, in the vast extended view I represent it ; a task embarrassed with insurmountable difficulties, and accompanied with such a variety and combination of circumstances, that no two cases will ever be found perfectly similar. Hence, I apprehend, arose the attempt to divide Fever into genera and species; an attempt no less absurd than the philosopher's would be who would undertake to divide mankind into as many genera and species as there are different complexions, statures, sizes, forms, features,

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tures,

tures, and other distinguishing marks in men. But notwithstanding the great variety of these, as the whole human race is only one genus, *man*; Febrile Infection is but one genus, which though in some trivial respects it differs in every two patients, and at different times even in the same patient; throughout the whole earth it is, and I am thoroughly satisfied ever has been, the same. A description therefore of Fever, which would apply to every case, would be as impossible for the author to present the reader with, as it would be for a painter to include all the complexions, statures, sizes, forms, features, and other distinguishing marks among men, in one picture. But as the picture might clearly shew that it represented the human likeness and form, though not perfectly similar to any individual; so I shall, with real diffidence, endeavour to lay before
the

the reader the general features of Febrile Infection, though my description may not strictly apply to any one case.

S E C T. II.

FEBRILE INFECTION DESCRIBED.

FOR the pathognomonic symptoms I refer the reader to Chap. II. of Part II; and proceed to inform him, that the first appearance of Febrile Infection is extremely various. Patients sometimes droop for weeks before they are seized with, and complain of, Febrile Infection: and, after it commences, it will perhaps crawl on for several weeks, and even longer, before it terminates favourably; leaving them liable to frequent relapses, or a prey to scurvy or consumption at last.

But it often terminates fatally much sooner, without any alarming symptom,

especially in hot climates; the energy of life quickly approaching there to extinction. We seldom meet there the train of nervous symptoms which often occur in colder climates, and terminate fatally. This extremely agitated state of the whole system is particularly marked, by desiring the sick to put their tongue and hands out: the former is so tremulous, that it is with much difficulty he can obey you; and the other is so relaxed and paralytic, that he is unable to hold it out; which renders it difficult to examine a weak frequent pulse, accompanied perhaps with catching or subfultus tendinum. Or it may be observed by strong frequent tremors; by greater degrees of partial or general paralysis; by extreme debility; by total indifference about every thing; by confusion of the head, and gradual privation of the intellects and senses, or preternatural

ternatural penetration and quickness; by loss of memory and perception, wandering, or by extreme anxiety, apprehension, and despondency. The tongue, which at first was of its natural appearance, gradually changes, and acquires a blackish slime on its middle, or assumes the pomegranate appearance. A bitter taste is complained of; and, though they are at times thirsty, no drink pleases. The state of the pulse is variable; being easily affected either by drink, medicine, motion, or surprize, which almost any thing occasions. The natural evacuations are either much diminished, or profuse. When profuse, they only hasten the general debility, and fatal catastrophe. The sick sometimes seem insensible to cold or heat, and at other times the reverse; and they will often complain of great heat when the skin is temperate, and of cold when the body

is really hot. They frequently mention that the palms of their hands and soles of their feet are hot ; and their countenances are flushed at times. A little heat, sometimes perceptible on the skin, impresses a disagreeable sensation on the fingers in feeling the pulse ; which indeed is very common in Febrile Infection. An eruption may appear about the mouth and nose, or on the skin ; and the cuticle, and at times even the cutis, especially of the hands and feet, may peel off. The urine changes its appearance, but deposits no sediment.—When the case is about to end fatally, the symptoms gradually grow worse until the fatal period.

On the contrary, some are seized with symptoms so violent as to resemble diseases of the inflammatory diathesis, especially pleuritis ; which abates, however, as the remission approaches, and again
increases

increases with the paroxysm ; for remissions, though irregular, are yet evident in the beginning of the Fever* ; and notwithstanding this seeming violence of the symptoms, if the sick have received no former hurt about the thorax, nor have been subject to cough from pulmonary or pleuritic affection ; and if properly managed, without letting blood, or being debilitated by the other parts of the antiphlogistic treatment ; little danger is to be apprehended. But if otherwise, and if the infection is virulent, the case soon becomes fatal, or terminates in phthisis pulmonalis which ends fatally.

Sometimes symptoms of putridity, evincing that the general system is far advanced towards dissolution, appear from the beginning ; and in these cases

* I never met with a case wherein there was not *some* alteration within twenty-four hours.

predisposition must have prevailed powerfully a considerable time before the Fever commenced. But generally such symptoms do not appear until the advanced state of Febrile Infection; and then factor about the sick renders it fully as disagreeable as it is dangerous to visit them. I have seen an eruption resembling measles, with a very offensive breath, from the beginning; and I have known patients to complain at first of lethargic symptoms, and Febrile Infection to commence with bubo.

It appears frequently with so much violence, that systematic writers have given it the appellation of *Causus*, or burning Fever; *i. e.* Fever arising from an inflammatory diathesis. That Fever accompanies inflammatory diathesis, is certain; but I believe never without topical affection, as in phrenitis, pleuritis, &c. which is quite a different disease

disease from Febrile Infection. But, though it does frequently commence with *apparent* violence, to an attentive practitioner symptoms of debility will be so obvious, as to leave him no room to doubt of its being Febrile Infection. It is often ushered in with a train of catarrhus symptoms.

Besides appearing in the extremes which I have marked, it commences under all the different intermediate degrees between these extremes—with depression of spirits, fear, and despondency ; with lassitude, languor, extreme coldness, epilepsy, faintness, and syncope ; with bitter taste in the mouth, oppression and pain about the præcordia, before porraceous or bilious vomiting and stools, to a slight degree of cholera morbus ; diarrhœa ; dysentery, with suppression of urine ; extreme costiveness and belly-ach ; with the head much confused,

fused, or affected with pain in the different parts ; or with giddiness, or deafness, or hæmorrhage at the nose, or tooth-ach ; with relaxation of the uvula, and various degrees of sore or ulcerated throat ; with sensation of swelling about the præcordia, and of the abdomen, after chilliness ; with anxiety and uneasiness about the thorax ; with pain of the side, shooting down into the groin or thigh ; pains in both ilia, which descend to the feet ; pain from the crown of the head to the sole of the foot of one side ; pain of the right shoulder, and pain of the hams ; with great heat and perspiration, without any previous shivering or coldness having been observed to usher in Febrile Infection ; with great variation of the heat of the skin, of thirst, and of the pulse. In some cases few, in others more, of these symptoms appear at the first of the illness, or so soon after its

com-

commencement that they may deservedly be ranked amongst the introductory symptoms.

But generally it commences with the pathognomonic symptoms; and, as it advances, the different types and symptoms, according to the circumstances before stated, occur. The countenance becomes daily more diseased; and debility throughout the system increases, and is complained of; but more particularly the stomach and head seem to be affected. The bowels seldom retain their natural state, but are either violently pained, costive, or relaxed to an extreme degree, or dysentery takes place. The sick, whether they complain or not, appear, from their frequent sighing and inquietude, to be extremely anxious; all their intellectual powers seem to be employed about their situation, which they nevertheless studiously endeavour sometimes

times to conceal. At other times they reveal their anxiety; and complain of great oppression and pain about the præcordia, or in different parts of the abdomen, wherein swelling and borborygmi are observed. Their pains during the exacerbation are more violent, resembling rheumatism or gout; and local pains are often complained of immediately before paroxysms or exacerbations. The countenances, in some cases, are often observed to vary: they are dry and flushed; or they are fallow, or iëteric, or covered with profuse, or clammy, or greasy cold or hot sweat; or they assume the hippocratic appearance. The alæ of the nostrils are sometimes much distended during expiration, and collapsed every inspiration: convulsive twitches are observed about the mouth.

The tongue, from being at first very little discoloured, gradually puts on a more diseased

diseased appearance ; becoming whitish, or foul, or furred, or dry, or brown, or husky, or black, and more or less chapt ; or it appears partially diseased, as if streaked, or very little affected round the edge ; or seems to have been boiled or macerated in boiling water ; or shrivelled, or enlarged ; which are dreadful symptoms.

The teeth become dry ; and, as well as the lips, are covered with fordes, which, when cleaned with difficulty, is soon replaced ; and the throat is perhaps much affected.

Every degree of delirium may be observed sooner or later in the Fever ; and *risus sardonius*, though rarely. The skin is in like manner affected in various ways : many eruptions of different aspects appear, and vibices, and blotches likewise. It is also dry ; or covered, as the face, with different perspirations, and degrees thereof.

When

When the case terminates favourably, the symptoms, before they attain their acme, commonly abate, as soon as medicines take effect, gradually, without any obvious crisis; otherwise they continue to increase until the fatal period, which happens indifferently from the 2d to the 38th day of their illness. But if medicines are properly prescribed, liberally, and early in the disease, it very seldom attains its acme, and terminates in a much shorter time.

The three following sections will illustrate this description; and, should the reader meet with other symptoms of Fever than these which I lay before him, he may rest assured that they do not originate from any specific difference of Fever, but depend on 5, 6, and 7, in the Practical Doctrine of Fever.

C H A P. VII.

THE AFFECTIONS OF THE SYSTEM WHICH
I HAVE OBSERVED IN FEBRILE IN-
FECTION.

S E C T. I.

THE GENERAL AFFECTIONS.

THE intellects are affected to a very great degree, even to perfect mania, for more or less time; the memory destroyed, as well as perception and attention. Great indifference, or dullness, or uncommon quickness; depression of spirits, languor, fear, anxiety, and despair, in various degrees predominate.

The nervous system with extreme debility, partial or universal paralyfis, or hemiplegia, or hemicranium, or sub-sultus tendinum, or convulsive twitches,

laughing, finging, grumbling, unnatural speech or voice, or muttering.

The skin with different degrees of heat, dryness, and roughness; with sensation of alternate chills and heat; with partial or general perspiration and sweat, cold, hot, watery, greasy, or clammy; a recking moisture; frequent alterations of these; many eruptions, besides petechiæ, maculæ, or vibices; with sallowness, yellowness, and at times lividity; and with separation of the cuticle and cutis.

The secretions and excretions, or natural evacuations, with preternatural colour, consistence, quality, diminution, or abundance, or temporary suppression; less or more offensive to the smell, especially the urine, stools, perspiration, and expectoration; worms voided both by vomit and stool; a degree of salivation, and suffusion of tears, likewise occur.

S E C T.

S E C T. II.

THE PARTICULAR AFFECTIONS.

The brain with sensation of general confusion, heaviness, lightness, giddiness, coma, pervigilium, and the various modifications of delirium *.

The head with partial or universal pain or aching.

The countenance, besides presenting the generally diseased appearance, is either flushed, or fallow, or icteric, or bloated, or partially swelled, or appears greasy, sooty, or squalid.

The eyes are affected with sensation of fire darting from them, with a livid circle round them, with diminution of sight, even to blindness in the paroxysm, with dilatation of the pupils, with sinking in their orbits, with a lifeless appearance, with an enraged appearance,

* Whether some of these are to be referred to general or topical affection, admits of doubt.

with an effusion of tears, particularly at the external canthi, which become dirty, or acquire the consistence of pus ; and sometimes they are very much blood-hot.

The ears with deafness, *tinnitus aurium*, pain, or imposthumation.

The nose with eruption, with distension and collapſion of the alæ ; sharpness, paleness ; with coryza, and offensive smell to the sick ; and with hæmorrhage.

The mouth, *externally*, with various eruptions ; the lips with paleness or lividness, or convulsive twitches, or with motion, as if the sick were tasting something. *Internally*, with aphthæ, or with bitter taste ; more or less dryness, causing incessant thirst ; and with fordes, which also cover the teeth and lips.

The tongue, as if macerated in water, or as if boiled, enlarged, stiff, shrivelled, covered with white mucus, gradually becoming

becoming yellowish, or brown, or black, or chapt, or husky, or as if it were striped, or covered with blackish slime, especially in the middle, and near the root; or the tip and sides appear red and moist, while the middle is very much diseased; or it is so tremulous that the patient can hardly shew it.

The throat with less or more inflammation internally and externally, accompanied with an exudation of serum, or lymph, acquiring the appearance of pus; with enlargement of the tonsils, with parotitis, with putrid ulceration; the trachea arteria pulled violently upwards, and projected at times with muscular convulsion, as if swelled; with hoarseness, and with rattling *.

The thorax, and its contents, with va-

* I never met with a case wherein this was not a fatal symptom, except Robert Cull's, an aged man, who was seized with Fever after intemperance, and uncommon danger from contusions.

rious pains, and in different degrees resembling pleuritis, or peripneumonia, or paraphrenitis; and pulled with less or more violence upwards in respiration.

The lungs with dyspnoea and unnatural respiration, with frequent interrupted sighs, with various affections terminating speedily in phthisis pulmonalis*.

The heart with palpitation and syncope.

The diaphragm with convulsive and other symptoms.

The stomach with nausea, sickness, retchings, vomiting of matter of different appearance and consistence, and of worms alive and dead; with swelling, with the sensation called heart-burn, with flatulence, cructation, and indigestion, with inordinate craving, with preternatural appetite, with sensation of great weight or oppression, with pain or

* As in Mr. Ogilvie's case.

tendernefs about the præcordia, efpecially when preffed.

The inteftines with conftipation, relaxation, flatulent diftention, borborygmi, griping pain, or belly-ach; with dyfenteric fymptoms, with fphacelus, and involuntary ftools.

The liver and its appendages with obftructions, preternatural enlargements, or fecretion and difcharge of bile.

The mefentery, fpleen, and panereas with obftructions.

The kidneys and ureters with nephritic fymptoms.

The bladder with micturition, fupprefion, or involuntary difcharge of urine.

The abdomen, externally, with lefs or more pain, tenfion, and fwelling; and the pain much increafed by preffure, particularly about the fcrobiculus cordis.

The tefticles with tendernefs, pain, and contraction.

The extremities with sensation of foreignness, or of wandering pains, as the sick express themselves, or of rheumatic pains; with unnatural posture, with convulsive twitches, or paralysis.

The pulse with endless variety.

In women, the menses variously affected; either by obstruction, frequency, or quantity.

S E C T. III.

SYMPTOMS IN THE CASES WHICH TERMINATED FATALLY UNDER MY OBSERVATION, FROM 1759 UNTIL THE END OF SEPTEMBER 1789.

Costiveness, borborygmi, palpitation of the heart, and colliquative sweats, as in Gray's case, 1759 *.

Violent affection of the throat, hoarseness, and livid blotches, as in Bridgman's case, 1761 †.

* See the Synoptical View, part iii. chap. i.

† Ibid.

Colliquative diarrhœa, succeeded by delirium, subfultus tendinum, and black tongue, on the 10th of his illness; and stupor on the 12th, terminated in phthisis pulmonalis, as in Robethon's case, 1761*.

Singultus increased, and violent retching induced by blood-letting, for dry belly-ach, as was thought; bloody stools succeeded; and vomiting black matter the 7th day of his relapse, were fatal the 8th, as in Mr. Weller's case, 1766†.

Inability to express their complaints, and only saying "they do not feel themselves clever," when they are still going about, and appear to the inexperienced to have little ailing them; but, if carefully attended to, the countenance is extremely diseased with fear, anxiety, and inquietude, and fallowness or icteric appearance, as in several cases on

* See the Synoptical View, part iii. chap. i.

† Ibid.

board the Preston, 1768 *; and on board the Weasel, in 1769 †.

An intermittent changing, with general tremors, convulsions, loss of speech, and cold extremities; to a remittent type, with a languid, irregular pulse the 3d day; the tongue very foul, and becoming brown, the 4th; a comatose disposition continuing the 5th, 6th, and 7th; relapsing the 10th, after being relieved the 8th and 9th; convulsions returning the 11th, and the coma still continuing, were fatal the 25th, as in Lee's case, 1769 ‡.

Obstinate costiveness, vomitings, and stools staining their linen, like an infusion of saffron; hæmorrhage at mouth and nose; bloody urine; purple blotches rising like the stinging of nettles; intense coma; ecchymosis, like swelling on the neck and face; the tongue brown and

* See the Synoptical View, part iii. chap. i.

† See the Physical Journal, part i.

‡ See the Synoptical View.

rough, with smacking, as if tasting something; wildness of the countenance; despondency, and great apprehension of dying; universal coldness, with clammy sweats; muttering or murmuring inarticulately, and syncope, were mortal in ten cases on board the *Weasel*, 1769 *.

Extreme dyspnœa; pulse rather hard, quick, full, and irregular; palpitation of the heart; great sense of debility and depression; insatiable thirst, though the tongue at first was nearly of its natural appearance; great inquietude the 2d day; the pulse sunk after losing a few ounces of blood: the thirst continuing; debility and depression increased the 3d, and continued to increase the 4th, were fatal the 5th, as in *Flower's* case, 1770 †.

* See the Synoptical View, and the author's Physical Journal.

† See the Synoptical View.

Debility, faintness; oppression at, and often laying the hand on, the præcordia; with urgent cough, on the 4th; great anxiety, comatose, and a small irregular pulse, the 5th, after two bleedings. Coma continuing, lying always on the back, with the eyes half shut, on the 6th; changing posture at times, without alleviation of the symptoms; two copious green fetid stools the 7th; coma increasing, with raving, and frequent slight alterations, the 8th; a moist hot exhalation, seeming to arise from the patient, though the skin felt dry and hot, the 9th; succeeded by catchings, subsultus tendinum, and convulsive-like respiration, were fatal the 13th day, as in Millage's case, 1770 *.

Great pain about the eyes the 3d; great apprehension, despair, countenance flushed, and, though thirsty, not pleased

* See the Synoptical View.

with any drink, on the 5th; profuse perspiration yielding no relief, or perspiration about the head and face, thick turbid urine, lying chiefly on the back, slight cough and costiveness, on the 6th; the tongue becoming dusky and chapt, cough more urgent, frightful notions, and inquietude increasing, the 7th; porraceous vomiting, the 8th; frequent retching, the 9th; expectorating a little thick matter a few times, the 10th; delirium, countenance becoming bloated, comatose, diarrhœa increasing, with other symptoms of dissolution, the 11th; urine changing its appearance often, and the thorax pulled violently upwards at every inspiration, the 18th; were fatal the 22d day of Hinchombe's case, 1770*.

Anxiety, fear, and the skin disagree-

* See the Synoptical View. These three last cases occurred on board the *Æolus*.

able to the touch, the 1st day ; costiveness, lightness or rather giddiness of the head, irregular pulse, anxiety, and nicety about trifles, beginning to wander, urine high-coloured with whitish fibres, and despondency increasing, the 2^d ; urine pale and crude, countenance flushed and rather wild, giddiness increased, and copious fetid stools, the 3^d ; pain in the right leg at times ; despondency yet increasing, though he complained little of any particular symptom ; the urine varying often in appearance ; the countenance appearing to common spectators so healthy that they thought little ailed him, the 4th ; the pulse softer and slower than natural ; lying on the back, and rising suddenly on one elbow when spoken to ; and the urine more variable, the 5th ; a very unquiet night, and a prickly heat like eruption about
the

the neck and breast, were fatal the night of the 6th, in Mr. R.'s case, 1772 *.

Obstinacy in taking no medicine before the 5th day, nor regularly before the 7th; raving the 8th; giddiness the 9th; costiveness, but no complaint, the 10th, though he bit his nails; evident symptoms of indigestion the 11th; convulsive rigors after taking James's powder, and roaring as if in pain †, though he mentioned none, the 12th; spitting a little blood the 13th, were fatal the 14th, in Mr. F.'s case, 1772 ‡.

Dysenteric symptoms, after drooping long, terminated fatally the 11th, as in M'Cartney's case, 1774 §.

A laborious and unnatural respiration, with noise; despair, great debility, and

* See the Physical Journal, p. 137.

† Whether this proceeded from the powder or not, I cannot say.

‡ See the Journal, p. 138.

§ Ibid. p. 116.

confusion of the intellects, were fatal the 7th day, in James's case, 1776 *.

Ceasing to complain of pain, without being otherwise relieved; rattling in the throat, the 4th; muttering or singing inarticulately the 5th, immediately preceded Audley's death, 1776 †.

Being seized with sense of extreme debility, giddiness, and faintness; with distortion of the countenance, delirium, and a discharge from the ear stopping suddenly, ended fatally the 2d day, in Hardy's case, 1777 ‡.

Wandering early in his illness, tremors, watery stools, insatiable thirst, wildness of the countenance; partial momentary sweats, yielding no relief; the countenance becoming sooty or squalid, the pulse moderate, acute pain

* See the Observations on Jail, Hospital, and Ship Fever, p. 229.

† Ibid. p. 225.

‡ Ibid. p. 230.

at the præcordia, aggravated by incessant cough, which brought up with difficulty a little phlegm; remission the 6th, followed by sense of cold and exacerbation on the 7th, and constipated bowels, were fatal the 8th day, in Birridge's case, 1777 *.

Extreme despondency, fear, and respiration through the nose, were fatal in Baker's case, 1777 †.

Pain of the left side, with cough, great inquietude, and insatiable thirst, on the 5th; ended fatally the 6th, as in Gafford's case, an irregular patient, 1777 ‡.

Violent and unremitting pain in the back part of the head for five days; hoarseness coming on the 4th day; tension, with swelling of the abdomen, and gripes, the 6th; effusion of tears the 7th,

* See the Observations on Jail, Hospital, and Ship Fever, p. 231.

† Ibid. p. 234.

‡ Ibid. p. 235.

and dyspnœa the 8th; were fatal the 11th, as in Watkins's case, 1777 *.

Tinnitus aurium, with forenefs and deafnefs of the left ear, the 4th; unnatural refpiration the 6th; acute pain of the right fide, the alæ of the nofe diftended, and white frothy stools after clyfters, the 7th; ended fatally in Hutchins's case, foon after he was fent to fick quarters, 1777 †.

Slight head-ach, gripes, thirft, and debility, the 1ft; followed by pains in the extremities, and exacerbation of the belly-ach, with coftivenefs, were fatal the 2d night, in the marine's case, 1778 ‡.

Great difficulty to put the tongue out from the 5th; pulling it out of the mouth with the hand, when asked to fhew it, the 9th; extreme dyspnœa, the

* See the Observations on Jail, Hospital, and Ship Fever, p. 237.

† Ibid. p. 239.

‡ Ibid. p. 149.

thorax and trachea arteria in the mean time pulled violently upwards; or the trachea projected and swelled; loss of speech at times; violent agitation of the abdomen the 11th; putting the fingers in the throat, and pulling the tongue, and provoking retching, when he saw no person, were fatal in Wakeland's case *, 1780.

Extreme debility and despair the 2d, ended fatally the 6th, as in Kid's case, 1780.

Rambling the 3d, laborious respiration and a few drops of blood the 4th, were fatal the 5th, in Norman's case, 1780.

Profuse hæmorrhage from the left nostril the 6th, and on the 7th in a less degree; unnatural respiration, and swallowing

* See the Observations on Jail, Hospital, and Ship fever, p. 335; and for the eight following cases, see the succeeding pages of the Observations.

lowing what he brought up in coughing, the 9th; dyspnœa and oppression at the præcordia; pulling out the tongue downwards when desired to shew it, the 10th; convulsion of the lower lip, and alteration of the voice, the 11th; the eyes generally shut the 12th; becoming speechless at times the 13th; frequent alterations from bad to worse, *vice versa*; universal paralyfis, and an uncommonly large healthy-like stool, the 14th; imperfect remission the 15th; rigidity of the limbs, and sweat, chiefly on the forehead, the 16th; a profuse sweat for a short time; motion of the mouth, as if tasting something, and the pulse becoming more regular and firm than it had been for some time, were fatal the 19th, in Gray's case, 1780.

Cough, anxiety, and despondency from the beginning: the macerated or boiled appearance of the tongue, and a deceitful

ful remission for two days; an exacerbation, and countenance flushed, the 7th; perpetual dryness of the mouth becoming more troublesome the 8th; weakness only complained of, though obviously very much diseased, and a short profuse sweat, the 13th; followed by two short remissions, and perspiration in the night; remissions the 14th and 15th, and an exacerbation the 16th; pain about the left ilium, and colliquative diarrhœa, which brought on tremors, the 17th; skin cool, and pulse moderate; extreme debility, wandering, hiccough, pain of the left ilium, and the tongue enlarged, the 18th; retching watery stuff the 19th; and spitting a bloody and extremely viscid stuff, were fatal the 21st, in Hog's case, 1780. I predicted this patient's death on my first seeing him.

Relapse the 4th day (from his being first ill, after returning by his own par-

ticular desire to duty), with extreme depression of strength and spirits; despair, diarrhœa, with a bloated and greatly diseased countenance, and excessive giddiness, the 3d; imperfect remission, with cough, convulsive catchings, and hic-cough, the 4th; inordinate cravings for food, and to get on shore; icteric appearance of the tunicæ albuginæ, and the eyes lifeless; thinking himself better, and a deceitful appearance of the pulse, when debility was rapidly increasing, and the discharge from the blisters was a dark sanies, the 6th; ended fatally the 7th, in Blair's case, 1780. I predicted his death when he complained of his relapse.

Depression, languor, and great debility; an expectoration of some dark-coloured pus on the 12th; and profuse perspiration on the 16th, preceded Clark's death the 17th, 1780.

Extremely

Extremely diseased countenance; the eyes lifeless, with blackness round them; total prostration of strength and spirits, with despair, and a fluttering pulse from the beginning, were fatal the 5th, in Goldengay's case, 1780; as I predicted at first seeing him.

Relapse (from falling out of his hammac down into the scuppers, where he was found almost dead with cold and wet) the 12th of his illness; the tongue enlarged and dry, and inability to put it out; sensation of great internal heat, with thirst, loss of speech, and convulsive twitches of the face, the 13th; pain in the feet, and hæmorrhage from the nose, the 14th, and again the 15th, with colliquative diarrhœa; a very squalid, diseased countenance, and covered with clammy sweats, the 16th; involuntary effusion of tears, especially at the external canthi, were fatal in Russel's case, 1780.

Languor and debility from the beginning; relapse the 20th of his illness, after being in a convalescent state some time; debility increasing, and loss of appetite; the sight failing, upon being moved to an erect posture, and little or no complaint, except of weakness, the 23d; dyspnœa the 25th, from eating immoderately; relapse the 27th; imagining himself better when he was not, the 30th; countenance flushed the 32d; motion of the mouth, as if tasting something, and a small contracted froth spit up, the 33d; tremors, cough, and pain of the right breast, 34th; mouth incessantly dry, cheeks livid, and muttering deliriously, 36th; a greasy sweat on the countenance the 37th, were fatal in Moore's case the 38th, 1782.

Extreme debility and despair, in Young's case, were fatal the day after I was sent for, in the end of May, 1783.
She

She had been ill a number of days, and would take no medicine *.

Dysenteric symptoms, with great debility, and a very diseased countenance, were fatal in two or three days after I saw him. He would not take medicines.

1783. Jerémiah House, taken ill at Portsmouth †.

Great debility, and the bowels much disordered of the child Read, were fatal the 12th, after I saw him in March 1784. He had been ailing some time before, did not take medicines regularly, and I saw him seldom ‡, from his living at a considerable distance.

Extreme debility, languor, anxiety, and despair; incessant dryness of the mouth, nothing pleasing the palate; oppression, or pain about the præcordia,

* See the Observations, p. 449. † Id. ibid.

‡ For the other cases which ended fatally this year, see p. 451 of the Observations.

and refusing her medicines, were fatal in Mrs. G.'s case, about the 10th day after I saw her. She had been ill some time before—September 1785.

Frequent sighs, pain resembling pleuritis, obstinate constipation of the bowels, the pulse little affected, paralytic affection of the left arm, with violent pain of the hand, and livid spots on the back of it, threatening mortification, and swelling of the feet and ancles, terminated fatally in Mrs. C.'s case. She had been long ill, and the antiphlogistic method had been tried in the beginning of her illness, before I was sent for—September 1785.

A live worm voided by the mouth, and intense coma in Smith's boy's case, November 1785, were fatal. He had been ill some time before I saw him, and he would not take medicines.

Ulcerated fore throat, giddiness, and
despair,

despair, with great debility, were fatal in Miss P.'s case. She had been ill about a week before I saw her.—December 1785.

Colliquative diarrhœa, in Ben. Leven's girl's case, was fatal*. She was in the last stage (of Febrile Infection) before I saw her, and no medicines had been given to her. She died in the end of 1785.

Dark-coloured matter vomited, called the black vomit, when first seized (after having had many bilious complaints for two years, and enteritis several times), catchings, or convulsive twitches of one extremity, and sometimes of the thumb; at other times, universal twitches, and intense coma, were fatal in Mrs. D.'s case, 1786 †.

* For the other cases which terminated fatally this year, see p. 454, 455

† See the Observations, p. 466.

Violent universal pains, inquietude, and anxiety at first; afterwards too great confidence of her own situation, and unusual quickness, penetration, and inquisitiveness, ended fatally the seventh day of the Fever, 1789. Mrs. N.*

Extreme anxiety at first, and the stomach and bowels much disordered; loss of appetite complained of exceedingly, and the eyes rather inflamed; afterwards indiscreet indifference about life, giving it up for lost, and taking no medicine, were fatal the 8th day of Mr. Y—g's illness, 1789†.

Extremely diseased countenance; the eyes generally more than half shut; great prostration of strength and spirits, and perfect indifference about life or any thing; dozing at one time, and so deli-

* See the Observations. † Id. *ibid*.

rious at another, that he was kept with great difficulty in bed; the pulse weak, quick, and variable, were fatal the 5th day of F—r W—t's illness*. I predicted his death the moment I saw him.

* See the Observations, p. 469.

C H A P. VIII.

ON PROGNOSTICS AND CRITICAL DAYS.

A Knowledge of Febrile Infection, so as to be able to prognosticate the event, is perhaps as difficult to attain as any other part relating to medicine : no part requires more attention or experience to be learned. Every circumstance respecting situation, climate, season, age, sex, and constitution, the manner of living, and of the patients being treated, as well as every symptom, ought to be well known, and duly considered, before a prognostic is formed, or made known to the relations. To form a fair and just prognostic, I say, the whole of the symptoms and circumstances about the patients, or respecting their situation, are to be fully stated ; then the experienced physician, as an expert arithmetician,

cian, by summing them up, will be enabled to prognosticate, with precision, what event may be expected. Were physicians to prognosticate after this manner, fewer reproaches would be thrown out against Hippocrates, because his prognostics and critical days will not apply to *their practice*. Had they practised in the country, and under all the same given circumstances which he did, and found his predictions erroneous, then might their censure have merited regard: but as the matter now is, instead of censure, he merits admiration for his sagacity in having formed so many axioms as are often found just in times and climates, and under circumstances, so remote from those in which he practised.

When differences in climates, seasons, and of men's constitutions cease; when the manners, customs, and mode of diet, amongst

amongst men are the same; and when the same method of treating diseases, allowing for the difference of age and sex, is universally adopted; then, and not before, may physicians expect that diseases will every where be perfectly similar, and the same predictions be invariable and universal.

What I have here said of prognostics, with equal propriety applies to critical days. But in Febrile Infectious cases under my own direction, for many years, I have paid no regard to critical days or to crises. And respecting crises, I must observe, that the evacuations and appearances about the sick, which have been considered or defined *critical*, are not the *cause* of a favourable alteration or change of the constitution, or patient's disease, taking place; but the *effects* of a favourable alteration or change
having

having commenced in the constitution or disease of the patient.

To many physicians there may be nothing new in this remark ; but I believe it is new to the generality of medical practitioners ; and I think it a distinction material in practice.

I consider no individual symptom of Febrile Infection as a fatal omen ; for in all cases about to terminate fatally, there is an assemblage of bad symptoms.

When the patient is seized with violent apprehension or fear, despondency, and extreme debility, which sometimes are expressed as extreme prostration of strength and spirits, fear, dejection, or depression, languor, weakness, listlessness, or indifference, and the countenance at the same time is excessively diseased ; or, in other words, when the intellectual and corporeal system are equally and violently

violently affected, I observe the prognostic is invariably fatal.

When either the intellectual or corporeal system, only, is violently affected, the prognostic is far less dangerous *.

Cases

* Though the intellectual system should be violently attacked, when the corporeal system is not extremely debilitated, and *vice versa*, much less danger is announced. It would seem, therefore, that the one system is able to support the other, when violently diseased; but when it unfortunately happens that both are attacked with violent disease, as too often happens to previously disposed constitutions—if the proximate cause is violent, or the infection virulent—the sick represent plants entirely blighted, which having the energy of existence arrested, the hopes of life are destroyed. This observation will be found just under every appearance of Febrile Infection: and the physician will be puzzled to decide whether the affections of the intellectual system, comprehending the modulations of delirium, or those of the corporeal system, including all the topical affections which accompany Fever, are most distressing to the patient, and most difficult for him to manage.

Sometimes the one and sometimes the other, by skilful management, is enabled to drag the other out of the mire of disease (if I may be allowed to say so), greatly maimed, or almost in a state of torpidity; of which, perhaps they
never

Cases of Febrile Infection, accompanied with pleuritic or pulmonic affection, in constitutions which have formerly been hurt or bruised about the thorax—or in people subject to bad cough, from whatever cause—terminate fatally in phthisis pulmonalis*.

When the sick think and say they are better, and that they are too well to lie in bed or to be confined, though they do not feel themselves *quite clever*, as they

never, or with the greatest difficulty, recover perfectly. Sometimes the understanding, or one or more of the senses, is destroyed; in other cases, speech, the use of a limb or of limbs, or of one side, is lost; and sometimes total paralysis follows. In violent topical affections, supuration of great extent, or gangrene, or mortification, frequently ensue, of which the loss of a limb is perhaps the consequence, or the patient may perish from inability to support the discharge. This, though no less a curious than an important subject, has never, to my knowledge, been attended to. It certainly opens a vast field of observation.

* As in Mr. O—, who died of consumption after fever, in June 1788, at Haslar. His mother died of consumption.

say, which in fact implies that they are diseased in a way that they cannot express; while at the same time it is obvious to an experienced and discerning physician, from their countenance, which is fallow or icteric, besides being otherwise greatly diseased, that they are extremely anxious and afraid, and that their mind is exceedingly agitated, from an uncommon degree of solicitude and inquietude about them—under such an appearance of Fever, in hot climates, the prognostic is always fatal*. An exception has never occurred to me.

Very

* The reason is, the state of the patients is not considered at all dangerous, and the time is let slip which ought to have been employed in the most active exertion to effect the cure. Other physicians, I find, have distinguished this deceitful appearance of Fever as a particular species, because an icteric countenance accompanied it; which is a common method with practitioners, as I have already observed. This appearance is more peculiar to hot climates; and it is difficult to say whether the

Very profuse and colligative evacuations, whether hæmorrhage, or diarrhœa, or dysentery, long continued, sooner or later terminate fatally, but generally soon.

Green or dark-coloured discharges from blisters afford a fatal presage.

Maculæ, or vibices, or yellow partial effusions, accompanying Fever, are fatal.

Some symptoms, such as cadaverous smell, and involuntary profluvia of stools

the corporeal or intellectual system is most affected. The patients answers, however, not coinciding with their apparent situation, indicates as fully a diseased state of mind as if they were highly delirious. I therefore would wish to impress indelibly on the minds of young physicians, and other medical practitioners, especially in hot climates, never to trust to slight appearances of Ferile Infection, but to exert themselves to effect the cure with as much earnest speedy solicitude as if it were an poplexy, or as a surgeon would to stop a hæmorrhage from a divided artery; an instant must not be lost in either case. For if the proverb *Anguis latet in herba* applicable to any disease, it is to Fever in hot climates.

or urine, do not often happen until death is at hand.

An extremely diseased countenance, in the beginning of Febrile Infection, is fully as dangerous a symptom as the Hippocratic countenance is in the end of Fever, or other diseases.

Stridor in the throat, vulgarly called the rattles, is not always fatal†.

In my Physical Journal I observed, that the patients seized with syncope, sudden giddiness, faintness, or from whom a few drops of blood fell from their nose in their illness, died. I am therefore happy to say that, from different practice, I observe that they are not always mortal symptoms.

A very offensive breath or smell about the sick, discovering signs of great putridity, is not always fatal.

† Robert Cull recovered, though he had this symptom.

When the countenance becomes gradually more natural, and despondency and fear diminish, and by degrees give place to hope; when exacerbations become less violent, the remissions longer and more distinct, the intellects stronger and more easily collected; when, after excessive pervigilium and inquietude, they begin to doze and sleep a good deal, though they positively deny they have slept; when they adhere, or begin to return, to their usual customs, and lie in their natural postures, taking, though with reluctance, what is offered to them; when the thirst abates, the pulse becomes less frequent, more regular, softer, and firmer; when they find sensible relief from natural evacuations, bearing their illness well, and their looks answer to the time and degree of violence of their illness; when the tip and sides of the tongue become moist, and the moist parts

daily increase; when crusts or fordes easily separate from the lips, mouth, and tongue; and when they daily lie quieter, and sleep more composedly—though no critical discharge* should accompany these, a favourable termination of the disease may safely be predicted.

* I speak here in-compliance with custom.

A N

ESSAY ON FEVER.

P A R T IV.

ON THE CURE OF FEBRILE INFECTION.

C H A P. I.

S E C T. I.

INDICATION FOR THE TREATMENT OF
FEBRILE INFECTION.

I HAVE observed, in par. 3 of the Doctrine of Febrile Infection, that the disease is the same, in all climates, and has been so in all ages; and as this doctrine is

a plain philosophical induction, founded on observation and experience for upwards of thirty years, I have not the least suspicion that any doubt will arise in the reader's mind but that the indications for the cure and the treatment of Fever, which invariably increased the cause of the disease, were irrational, and deduced from erroneous doctrines which appear in the writings of all the ancient and modern physicians, very few excepted *.

* Some individuals have prescribed bark early and liberally, in particular appearances of Fever, when all other means failed them: but the principle upon which it succeeded was not well comprehended. One physician, whom I know, is eminent for the cure of Putrid Fever. Sydenham, on his death bed, is said to have acknowledged that one method of cure would answer in all his constitutions; and Dr. Millar asserts that bark will cure *all the ideal variety of Fevers*. Could my testimony of this eminent physician's abilities have placed him in a situation suitable to his merit, long ere now he would have promoted the public good, as much by his practice, in the first line, as he has by his precepts for many years.

If

If the cure was thought to be most safely committed to the operation of the *vis medicatrix naturæ*; or if it was thought that an acrimony was to be rendered bland, that viscidities and lentors were to be diluted, that the spiculæ of atoms were to be destroyed, that spasm and atony (consequent effects of debility) were to be removed or overcome, and that depuration and concoction were to be accomplished, to cure Fever — how has it happened, notwithstanding these various doctrines, that medical professors have reasoned so erroneously, and deduced such false indications from them, as to adopt and recommend treatment diametrically opposite to them? Widely, however, as they have differed in their doctrines, they all meet or unite very nearly in their practice; and by false reasoning endeavour to prove, that the antiphlogistic or alexipharmic (which

is an equally debilitating) plan applies to, and will fulfil, their various indications of cure. Had their doctrines been orthodox, and the inductions and indications deduced from them just and philosophical, would not the eventual success of their practice have proved it, instead of shewing incontrovertibly that they are all at variance?

But that doctrine appears to be the most inconsistent of them all, which admits that the state of spasm, or atony, at the commencement of Fever, is the effect of debility; and that the hot state or stage which succeeds them, on the contrary, is sthenic or inflammatory, which is called reaction, and is only another term for the *vis medicatrix naturæ*. The futility of this false logic is extremely well and justly exposed by the author of the *Outlines*.

Hence I must observe, that though
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there are very few writers on the subject which claim notice or regard, and far less our imitation in treating the sick, still I allow that their writings are useful, as beacons or lighthouses are to seamen, to warn us of the shoals and rocks which thousands of them have split upon. But without launching into the field of theoretic disputation, which I readily yield to those who are inclined to wander in it, I return to my subject; and observe,

That the Doctrine of Febrile Infection being a clear philosophical induction from successful practice in three different quarters of the world, under my own observation and experience; the indication for the cure is so perfectly obvious, as to preclude all theoretic reasoning or disputation on the subject; for,

As Febrile Infection, from experimental observation, appears to be “a
diminution

diminution of the energy imparted by divine wisdom to every individual for maintaining the equilibrium or healthful state ;” it follows, that the indication for the cure is simply to restore the diminution of the energy ; or, in other words, to re-invigorate the debilitated energy. Hence it is obvious, I say, that whatever the means used to effect this purpose are, they should all have a direct tendency to invigorate and restore, and not to debilitate or diminish, this energy.

S E C T. II.

ON EVACUATIONS IN GENERAL.

Evacuations then, properly speaking, cannot possibly have any place or share in the cure; but, as some may have in particular cases an indirect tendency to promote it, before I enter upon this part of the subject, I shall consider their nature and effects with all the attention due to their importance: and when the learned reader recollects the ample field of observation and practice in which I have been employed; and that the remarks on the subject, which I submit to his serious consideration, are deduced from that field—I trust he will generously acquit me of either impertinence or vanity; and allow that the utility of these remarks may compensate for the deficiency of style and manner in which they appear.

S E C T.

S E C T. III.

ON PARTICULAR EVACUATIONS.

I. *On Blood-letting.*

If evacuations in general are adverse to the doctrine, and indication for the cure, of Febrile Infection which I have laid down, blood-letting is most particularly so. Whatever, or how powerful soever, the arguments are which might be advanced against them, they apply with the strictest propriety against this evacuation. What all the rest do only in part, towards diminishing the already debilitated energy upon which the equilibrium or healthful state depends, this does fully and effectually by increasing the cause of the Fever

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which certainly is not a philosophical way to cure it.

This practice, however, has been invariable amongst theoretic physicians, from the erroneous opinion that all their Fevers, whatever were their doctrines concerning their causes, were in the beginning less or more inflammatory; and it was repeated according to their theoretic notions. But their unsuccessful practice, which was the consequence in all ages, never was considered by them as the effect of this treatment; nor was it to be expected it should, as they were taught to believe there was no other rational method by which the cure could be obtained. But were the arguments in its favour a thousand times more powerful than those which I have met with, I most solemnly protest against it; because, from upwards of thirty years experience and observation, I have never

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ver in one instance seen its good effects ; nor a case in which, upon a serious revision of it, it would not have been better omitted.

As Febrile Infection proceeds from debility, which from the nature of infection, from want of pure air, exercise, rest, and nourishment, is continually increasing—it is the height of superstitious fondness for old unphilosophical doctrines, to increase the cause by the most effectual means, blood-letting—whether by the lancet, leeches, or cupping—under a pretence of curing it. To say many have recovered of *Fevers* who have been let blood, proves the propriety of the practice no more than if they were to say that many have, beyond all expectation, recovered of violent accidents accompanied with profuse hæmorrhage ; or of small-pox, under the old hot alexipharmic treatment. I believe no medical

dical professor would hazard an opinion that it would be prudent or philosophical to make trial of one or the other, because some have narrowly escaped with their lives from both ; and they who recommend blood-letting in Febrile Infection, stand in no better a predicament, in my opinion, than such professors would.

II. *Vomiting.*

If vomits are given and repeated with an intention only to evacuate the saburra, colluvies, or noxious matter collected from time to time in the stomach, which acts as a fomes of the disease, according to theoretic doctrines ; the practice, notwithstanding these and all the other specious arguments which can be advanced to support it, is not more philosophic or justifiable than blood-letting. But the practice of keeping the stomach for hours and days in

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a state of nausea and retching, with a view to remove the universal spasm from the surface of the body, is still more pernicious than a vomit repeated : because it debilitates more and more the stomach, which almost constantly suffers more than any other part from the commencement of Febrile Infection ; and greatly injures the digestive powers or tone, already so much affected, that it will with great difficulty retain any thing.

But although I disapprove greatly of vomits given on the principle now mentioned, for the reasons I have stated, I would recommend a vomit as soon as possible after the patient is seized with Fever ; because, when given then, I know from experience that it has often effected a cure *. But it is not by the matter

* See p. 379 of the Author's Observations on Jail, Hospital, and Ship Fever ; and Dr. Lind (of Haflar, is
always

matter which it brings up from the stomach that it effects this; it is from its action, as a most powerful and universal stimulant to the diminished energy, and thereby restoring the equilibrium or healthful state; and though it is often salutary when administered at the commencement of Febrile Infection, before the energy is greatly debilitated, I never met with an instance of its being serviceable afterwards, except in a relapsed state.

III. *Purging.*

Medicines of this class may, under certain circumstances and restrictions, be needful and proper from the commencement to the termination of Febrile Infection. When the sick are either habitually or preternaturally very costive,

always meant throughout the Essay) has made the same observation, but he has not explained upon what principle it effects this.

by which means the primæ viæ are loaded with colluvies, and, from their weight and pressure on the great blood-vessels and nerves, occasion various symptoms; when acrid matter in the primæ viæ occasions griping pains in them—in such cases it would be proper to purge off the latter by a gentle cathartic in the beginning of, and to guard against the former throughout, the Fever. When dysenteric symptoms accompany Fever, gentle aperients must be combined with invigorating medicines throughout the cure; or, when obstructions of the liver unfortunately have existed before the attack of Febrile Infection, deobstruents must be administered with the bark. But these, and perhaps a few other instances wherein medicines of this class may be requisite in the cure of Febrile Infection, are only exceptions in a general rule; exceptions which
rarely

rarely occur, and which by no means alter the principal indication of cure; and might therefore be properly said to require an additional indication, viz. “that in some cases aperients should be combined with the restorative or invigorating medicines.”

The reader, however, is not to suppose that strong purges can ever be administered with impunity in the cure of Febrile Infection: whether they are given with an idea to remove obstructions, or to carry off part of the morbid matter, they will equally and effectually augment debility, the cause of the disease; and consequently become, in the end, as pernicious as blood-letting.

Stools are a natural evacuation, and necessary to perfect health; yet, if increasing their number beyond the usual standard weakens a healthy person, though living on full diet, and enjoying

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exercise

exercise in the open air—how much more likely is it that purging will increase the debility of Febrile patients, whose diet is only water gruel, while breathing in their own diseased atmosphere, in small rooms, in hospital Fever wards, or on board crowded ships !

Purging then, strictly speaking, constitutes no part of the medical treatment of Febrile Infection; and in the exceptions * wherein it has been found beneficial, it has been far more owing to the stimulus communicated to the primæ viæ, and from thence to the general system, than to the matter evacuated.

IV. *Sweating.*

All that I have said against purging may with equal propriety be urged against sweating; for though perspi-

* See p. 386 of the Author's Observations on Jail, Hospital, and Ship Fever.

ration is likewise a natural evacuation, and essentially requisite to our well being, it can never be forced beyond the natural quantity, especially in Febrile Infection, without increasing debility, the cause of the disease: consequently the oftener it is done, and the longer it is kept up, the more pernicious the practice is. I therefore enter my protest against the repetition of medicines of this class, though they have been often found highly serviceable when given in the very beginning of the illness *. In those cases, however, wherein sweating has been serviceable, I must observe, that I consider this salutary effect to have been generated upon the same principle as that from vomiting and purging—not from the quantity sweated, or perspirable matter forced, but from the stimulant power of the medicine restoring

† See the Author's Observations, p. 382.

the energy, or healthful equilibrium. The earlier the attempt is made with medicines of this class, therefore, the better; and I can by no means subscribe to a repetition of them, even though it should be done by warm bathing.

Indeed the operation of warm bathing is attended with so much difficulty and trouble, that, if it were capable of producing the most salutary effects, very few in middling classes of life could possibly put it in practice. I have therefore, in Febrile practice, always substituted the pediluvium, or bathing the feet and legs, in its stead—at the commencement of Fever only, when sudorifics were prescribed. If it were judged requisite, warm fomentations or vapour might be applied to the extremities, or body, any time of the patient's illness;

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provided profuse sweating is not brought on, or kept up, thereby.

V. *Blistering.*

The same inferences are deducible from the effect of cantharides, as from the effect of medicines which promote the three last-mentioned evacuations; for whenever I have found blistering effectual, it was in the beginning of Fever; and then by their stimulating power only, and not by any means from the discharge which they procured*. Little as the quantity discharged is, it proportionably adds to the cause of the disease, *debility*; unless when the stimulating power of the cantharides restores the energy or equilibrium upon which health depends, as it were, by an electric shock.

* Dr. Lind attributes their effects entirely to the brain or discharge which they procured; and with that view, as one dried up, ordered another to be applied.

It is upon this principle only that emetics are likewise efficacious, as also cathartics and sudorifics, as I have already observed: and it is very remarkable, that this stimulant or electric power operates more speedily and effectually when applied in the very beginning of Febrile Infection, than in any after period of the disease. When the strength of the sick is exhausted, and general debility is so far advanced as to resist their stimulating or electric force, consequently they produce then no other effect than to increase and hasten the general debility, by the discharges or evacuations which they promote*. I still admit, however, that blisters applied to local affection, during Fever, may be useful, by communicating a stimulus to

* If it comes out that blisters applied and healed as often as possible, during Fever, are successful, it will still support my doctrine of the electric or stimulating power of cantharides.

the neighbouring parts (though this stimulus is now too insignificant to restore the general energy), more than by any revulsion or diminution of the bulk of the part, which they are supposed to produce by the discharge which they occasion.

S E C T. IV.

ON PARTICULAR REMEDIES.

Having considered, in a plain philosophical manner, the nature and effects of Evacuations, which, though they constitute the chief parts of the antiphlogistic plan of treatment of *Fevers* *, the general practice of all ages, are by no means necessary nor proper to cure Febrile Infection, as I have clearly shewn; but, on the contrary, are highly pernicious,

* I speak here in compliance with custom only.

cious, unless administered on the principle I have mentioned—I proceed now to consider the nature and effects of the principal medicines upon which the cure of Febrile Infection depends; and these are bark, wine, and opium.

I. *Bark.*

If nothing more had ever been said for bark than its opponents have been at great pains to say against it, their writings alone would have been sufficient to hand it down to the latest posterity, as a medicine of the first class in the *materia medica*. Had it been the pernicious, the insignificant, or the insipid powder which their volumes have been composed, with infinite pains and trouble, to induce us to believe, still they would have been employed on *labour in vain*; because, had this character which they gave of it been just, there would have

have been no necessity to have written it. Every one who made trial of it would very soon have found that out; and its character and name would have quickly died away. But as they who have so strenuously written against it, have either undertaken the task from bad motives, or from their ignorance of its real virtues; they have, instead of injuring its cause, as they intended, really promoted it, by introducing it to the knowledge of many who would perhaps have remained ignorant of it; and though it was decried by the many, as a febrifuge, they themselves allowed that it possessed wonderful antiseptic powers, which supported it likewise amidst all the theoretic force of declamation.

Numbers have furnished us with accounts of the superior efficacy of bark in curing *this or that species* of Fever, in particular situations, and under certain cir-

circumstances ; but unless Sydenham's declaration in his last illness, " that the same method of cure would answer in every constitution*," be considered as a recommendation of bark for the cure of all Fevers—no writer, Doctor Millar † excepted, who has boldly asserted that *bark will cure all the ideal variety of Fevers*, ever ventured to say that bark would cure Fever in every climate, before the first edition of the Author's Observations on Jail, Hospital, and Ship Fever appeared. In the first and second parts of that edition, I affirmed that I found no material difference in Fever in Africa and America, and that the bark treat-

* See Dr. Millar's Observations.

† If any there be who have said that it would cure all Fevers, they have immediately contradicted themselves. Dr. Millar has been so copious on this part of my subject, in his writings, that I refer the reader to them ; where he will meet with erudition, accuracy, and practical facts to support him.

ment was equally successful in both; and, in the third part, that the same treatment was successful, in various parts of Europe, in curing Fever, which I observed was every where the same. Since that edition was published, I have experienced the same success from the bark treatment of Fever, in a country where Fever is considered endemial; and likewise at Newfoundland, where in the year 1770 I had been very unsuccessful in the treatment of Fever with the antiphlogistic method, as the reader may see in the Synoptical View.

From this extensive field of practice in which I have been employed, and prescribed bark in various parts of three quarters of the world, and on the intermediate seas, the reader will allow that, had the bark possessed any qualities which rendered it improper or pernicious in Fever, I must have discovered

covered them, as my observations and attention have been particularly directed to its effects in curing Fever. But so far from finding it the pernicious, insignificant, inert powder, which violent theoretic writers and cavilists wish mankind to believe it to be, I have found it, in every country and climate, a safe and powerful remedy in Fever, as well as in many other diseases, when administered judiciously in proper doses. The reasons why so many unjust reproaches and bitter aspersions have been thrown out against bark, as a cure for Fever (I before observed) are,

1. That they have prescribed it in such manner as if they either had placed no confidence in it, or as if they wished it to be thought that they had left no medicine of any character untried, to relieve or save their patients, when they prescribe it near the fatal or advanced

vanced period of Fever. Indeed they perfectly acknowledge themselves at a loss when they ought to administer it, by stating, as a question of great difficulty, "What is the proper time or period of Fever to begin to administer the bark? It never can be proper," they say, "until inflammation (a circumstance which never can take place in Fever) be carried off by the antiphlogistic plan;" which soon exhausts the remaining strength of the digestive powers; and rapidly increases general debility, which is the cause of the disease. Now it is too late: they might as well prepare their bark, unless they join powerful stimulants with it; for, though I allow bark to be as important in curing Fever, as bread is in our food; still other ingredients must be joined with it, to fulfil their respective indications.

2. When they do prescribe it, they seem to do it upon no principle whatever; for after having administered a few scruples, or perhaps half drachms *, before the patient died (when as many ounces were requisite to have recovered him), they exclaim that “the Bark failed them, or would not answer in that case.” Or, should the patient live, and not apparently recover, the bark is laid aside, and another medicine prescribed †; instead of their increasing the doses of bark, and repeating them oftener.

3. I would ask these physicians, when they ordered the vomits and purges for their patients, if they expected those medicines would operate, unless the doses of ipecacuanha and jalap were adapt-

* I have heard a medical practitioner tell his patient, who was a surgeon himself, that “he must continue to throw in the bark,” when the quantity prescribed was only half a drachm every six hours.

† Thus the bark is blamed for their bad practice.

ed to the constitution? Or, if they can precisely ascertain a proper dose of one or other for a patient whose constitution they are a stranger to, and if that failed in its operation, would they not, instead of blaming the medicines, allow that it was owing to the smallness of the dose, and therefore repeat it until it produced the desired effect?

4. But admitting they produced a case or two wherein the bark was fully and fairly tried unsuccessfully, which in a thousand may happen, could not instances be adduced wherein ipecacuanha would not vomit, nor jalap purge? and, should they be disposed to contend that neither the ipecacuanha nor jalap was of good quality, might not I, with equal propriety, insist that the bark which they administered was of a bad quality *?

5. As

* My bark, in the late war, was so bad at one time, that I was obliged to double the quantity of the dose.

5. As these propositions are apt, the following inference is fair and obvious. Allowing it is an axiom, that good bark will cure Fever as certainly as ipecacuanha will vomit, and jalap will purge, does it not follow that, to cure Fever, the quantity of bark must be as fully proportioned, in every case, as the doses of good ipecacuanha and jalap must be to promote their respective evacuations ?

6. As of these, and of many other medicines, it is difficult to ascertain the doses until the constitution is known—and as the same person at one time requires larger doses to operate on him than at another—is it any matter of wonder that the precise quantity of bark which will

After bad bark has been given long ineffectually, a few doses of good bark has cured the patient. Bad bark is the source of inexpressible mischief in practice, and the quantity has greatly increased since the recommendation of red bark ; for as the demand increased, the price and adulteration have kept pace with it.

cure

cure any individual of Fever is not ascertained—more especially when we consider that bark has been administered so illiberally, and upon no principle whatever?

7. Whoever expects to cure Febrile Infection with bark, and administers it upon any other principle than *that it must be given early in the Fever, and liberally, until the cure is effected, without any regard to the quantity*, will only add to the number who unjustly exclaim, in the common jargon, “that the bark failed them;” a species of jargon which has occasioned the loss of many thousands, by its passing from one to another, on the baseless foundation I have mentioned. For my own part, I am unable to conceive what could first introduce the precept, and how it has been so long and so generally supported, to delay giving bark until there is either an intermission

or distinct remission of Fever; as they must have often observed that, during their fruitless expectations, and endeavours to procure these, their patients have been lost. Upon what authority soever this destructive precept was established, or however venerable their names who have supported it, I must in justice to mankind declare, from far greater authority, observation, and experience, for thirty years, that it has been the most fatal precept that ever was inculcated in the practice of physic. Delay and parsimony in administering bark, in Febrile Infection, are execrable foes to the human race.

8. After the *primæ viæ*, or first passages, are emptied, which if necessary may be done in two hours time, I know of no rational objection to administer the bark immediately. For as the indication is to restore and invigorate the di-

minution of the energy which maintains the equilibrium or healthful state of the general system, and as the properties of bark are obviously restorative or invigorating, it is sound philosophy to apply the remedy as soon as the disease is discovered. I would therefore, without delay, prescribe it in doses of from gr. x. a. 3 ij. according to the age, sex, and constitution of the sick, every hour, or seldomer, according to the exigency of the case; with this consolation and assurance, that a few doses given in the beginning will be of more essential benefit than as many ounces in the advanced state of Febrile Infection. If possible, I would be careful to administer the bark in the form most agreeable to the patient, and the state of his stomach, which must retain it, to produce any good effect; and for this end volatiles, liquid opium, ar-

dent spirits, compound waters, or wines*, are to be occasionally joined with it, when, and in such proportion as, the physician thinks proper.

When Fever has been formed several days, and debility is advanced, the salutary effect of bark must be expected to be much slower than when it is prescribed in the beginning of Fever; but, throughout the Fever, medicines of any class which the physician thinks proper, may very commodiously be joined with it; and the forms in which it may be administered are almost numberless †. In
such

* In ——— Tonyn, Esq.'s case, whom I had lately under my care, I tried all these ineffectually. At last I mixed his bark in milk, which agreed perfectly with him; and he soon recovered from a very dangerous situation which his friends thought him in.

† With common water alone, as I gave it in 1769 on board the Weasel; and in 1772, 1773, and 1774, on board the Rainbow (see the Author's Physical Journal); and from 1776 to 1783 on board the Juno, Edgar, Romney,

such cases as are accompanied with topical affection, he is to unite suitable medicines with the bark.

II. *Wine.*

Wine, if used judiciously and in moderation, will be found of great benefit, as I have already observed*, throughout the cure ; and as part of the diet in the convalescent state, to obviate scurvy, and perhaps consumption. Respecting the quantity for a dose, or how often it should be repeated with the bark, must entirely depend upon the sagacity and

Romney, and Blenheim ; and again on board the Salisbury, in 1786, 87, and 89 (see the Author's Observations on Jail, Hospital, and Ship Fever). The form may be varied eight ways : after the same manner it may be varied with common water distilled, with all the simple waters, with syrups in various forms, with emulsions, with wines, compound waters, and with ardent spirits, which may be mixed and varied almost *ad infinitum* ; besides with milk, in different ways.

* See p. 377 of the Observations.

judgment of the practitioner; but I must remind him always to recollect, that one common wine glass full is to some as complete a cordial as six bottles are to others. How various are the gradations between these extremes! The aim of the physician, therefore, ought never to be to try what quantity can be poured into the stomach, regardless of its inebriating or intoxicating qualities—which would most certainly defeat his own intention, by destroying the digestive power of the stomach, increasing general debility, and bringing on his practice a just odium, and an indelible contempt—but to administer it as a moderate cordial stimulant, to assist the bark. It is incumbent on no society more than on the medical, to be exemplarily temperate in every part of their conduct. For my own part, I had as soon consent to an executioner being brought

brought to my bed side when I am ill, as to have a medical professor introduced to me, who, in open defiance of philosophy, morality, and all decorum, would order wine or intoxicating liquors to be poured down my throat, until I was in a state of inebriation; and keep me in that state (regardless of my constitution, or antipathy against it) for no better reason, perhaps, than because he liked to be in that state, or could bear a large quantity himself. Ardent spirit*, however, is never to be used in Febrile Infection, but in cases wherein wine positively disagrees with the sick, or is not sufficiently stimulant. I knew a gentleman upon whom wine acted as a violent poison.

* I am an avowed enemy to the use of ardent spirits, from having observed great mischief occasioned by the use of them. They frequently occasion scurvy, as I have observed in my Observations (see page 329); and I am fully persuaded they are the principal cause of hepatic complaints, both in hot and cold climates.

Such

Such cases may occur; and in these I would dilute spirit, and give it as a medicine, to prevent the attendants, as well as the sick, from knowing the composition.

III. *Opium.*

I have given it, either in a solid or liquid form, the first night of the patient's complaining, and generally every night after during their illness. I administered a dose in the same manner at bed time; the intention of which was, to mitigate pain, and to procure more rest *.

But I candidly acknowledge that I had no idea of its stimulant properties† being

* For the same reason I have given it in the paroxysm, when accompanied with violent head-ach, which it relieves, as Dr. Lind has observed; and during the convalescent state he preferred it, as a corroborant, to bark.

† That it has been very long known to possess those properties,

being introduced into medical practice, until I met with the *Elementa Medicinæ* of John Brown, and Dr. Jones's Enquiry into the State of Medicine, in the end of December 1786. From their account of the diffusive stimuli, i. e. liquid opium given with volatile and ardent spirits in Febrile cases, and many others proceeding from debility, I was induced to make some experiments with it on myself, when I laboured under no other indisposition than what is commonly understood by being *nervous*. I began with doses of twenty-five drops of tinct. theb.; and by degrees increased the dose to seventy drops, in one ounce and a half of white wine; and the same number of drops of sp. vol. arom. as of the tinct. theb. and a few drops of sp. lav.

properties, is certain, from the account we have of the Asiatics taking large doses of it, when they intend to excite the madness called *running the muck*.

comp.

comp. to render it more palatable, at bed time. The effects which I observed from these draughts were as follow :—I passed the night comfortably, but could not sleep; and was always more inclined to lie in bed, and to dose, in the mornings, than usual, especially after taking the dose of seventy drops.

When I got up in the morning, my countenance was extremely diseased, and my eyes bloodshot, as if I had been very drunk over night, I was told. I was so very languid, heavy, and giddy, that I could scarcely stand; my mouth was exceedingly parched; I perceived a disagreeable sensation about my throat; and when I attempted to swallow at breakfast, particularly bread, I found deglutition almost impeded from a straightness about the pharynx and œsophagus. My appetite, which is always keen for breakfast, was destroyed; I frequently
retched,

retched; and was altogether so greatly diseased, and unfit for business, that I resolved on taking a dose of forty drops of the tinct. theb. in the manner before mentioned; soon after which I began to recover gradually, but neither had an appetite, nor was comfortable all day. Next day I was less nervous than usual, and was well in other respects, except being costive. The doses of sixty, fifty, and even down to thirty drops, have affected me in the same manner, only in a less degree.

I have given opium to many patients in the same manner; and to one, in particular, in doses of ninety drops: and they felt themselves next day as I have described my own feelings; and numbers have complained besides of great itching over their bodies, and of a slight eruption. The dose, however, which I
most

most commonly administered, was fifty drops, and sometimes with the same number of liquor. anodyn. Hoffman. or of the sp. vol. aromat. or of sp. lavend. c. either in an ounce and a half of wine, ardent spirit, or spirituous waters: this given in the exacerbation or paroxysm, in several bad cases of Febrile Infection, brought on a remission, and the bark was immediately administered freely with wine and water. I have made trial of this stimulus in some other cases of debility, which have done well; excepting one, who was at the point of death before he began to take it, in a small quantity, frequently repeated.

From these experiments I am convinced that the effects of opium are generally very little known; for, given in the manner I have mentioned, I have never known it occasion sleep or comatose symptoms,

toms, but to act powerfully as an anodyne, and to prevent sleep*. But however favourably I may thence be disposed to think of the diffusive stimuli, I never will, nor recommend to, dash with hundreds of drops the first, second, or third dose, in any patient's case whose constitution I am unacquainted with. As a powerful stimulant therefore, in moderate doses, gradually increased according to circumstances, it may be given with bark in Febrile Infection, with great advantage; but a trial is no more to be made, to see how much may be poured down the throat, than of wine. Ex-

* In another case, whereon I was consulted by a most eminent physician, we ordered thirty-five drops in a gentle diaphoretic and cordial draught, ineffectually. This patient had been ill a considerable time before we were called in, and I saw her but once; then she was extremely debilitated by purges which the apothecary had given her, and she had strong marks of dissolution about her.

tremes, in medical practice, ought never to be adopted but on sure ground *.

Besides

* That the effects of opium (or diffusive stimuli) are similar to those occasioned by a debauch, is obvious from my own case; and as every man can at one time bear several bottles of wine better than a pint at another, the same disparity in the constitution may exist at different periods for bearing the diffusive stimuli; and the utmost caution is therefore always necessary in administering it, because the same dose which was taken with advantage at one time, may extinguish life at another; as, to our great sorrow, we have seen in the case of John Brown's death—a man who, possessing great abilities, which he employed for the public good, has, by his rashness in taking too large a dose of the diffusive stimuli (which I believe he was the first who recommended on that principle), afforded a signal triumph to his opponents. Had his deportment and practice corresponded with his superior knowledge, comprehension, and genius, his loss would have been universally regretted: and while the timid, who hesitate and dispute about prescribing a few grains of pulv. flor. chamæmel. sneer, perhaps, and hug themselves in their security against such a catastrophe befalling them, because they never make any experiments—the rash and the dashing practitioners, who imagined, it would seem, there were no bounds to their experiments, are now taught that, if accurate discernment between the diseased states

Besides these, which are the most essential remedies or medicines in curing Febrile Infection, many others may be occasionally joined with them, as the physician or medical professor thinks proper—aperients, deobstruents, and bitters. Of the former, manna, rhubarb, jalap, antimonials, or neutral salts; of the second class, calomel, aloetics, or lixivia, or kali; of the third class, radices columbæ, serpentariæ, gentianæ, cortices eleutheriæ, St. Luciæ, besides camphor, sal succin. volatiles, and cardiacs—may be administered, when, in such proportion, and as often as he pleases*.

of the system do not always accompany a judicious and prudent practice, death will mark the limits, as in the melancholy and much to be lamented case before us.

* See the Appendix.

S E C T. V.

ON THE GENERAL MANAGEMENT OF
FEBRILE INFECTION.

Having briefly considered the nature and effects of evacuations, and of the particular remedies which are most essential in the cure of Febrile Infection, I proceed to lay down the general method which, from upwards of thirty years observation and experience, I would recommend to cure Fever. But, in doing this, I do not intend to enjoin positive rules ; because constitutions and circumstances about the sick vary so much, as to render deviations from positive rules absolutely necessary. However, the latitude is only granted as to the mode, the quantity for a dose of, or the frequency in giving the medicine. The principle of the practice which I am
about

about to recommend, must every where be invariably adhered to. I have experienced its salutary effects, thank God, in the Bay of Mexico, in 1766; on the coast of Africa, in 1769; at Jamaica, in 1774; at Gibraltar, in 1780; in the Channel, in 1783; and at Newfoundland, in 1788; in my own case; as well as in public and private practice in various parts of three quarters of the world.

S E C T. VI.

APPLICATION OF THE MANAGEMENT TO
THE COMMENCEMENT OF FEBRILE IN-
FECTION.

This is the most advantageous period for the sick to call in assistance, and the period when the medical professor will derive most credit from his practice. A moment of this precious time should not be lost, but every instant employed in

using the most effectual means to fulfil the curative indication ; because, though many cases turn out so mild as either to require no great exertion of skill to manage them, nor haste in treating them, he never can be certain at first how the case may terminate ; especially if he is unacquainted with their constitution, or practises in a hot climate : and I have often, in my own practice, found most danger where there is the least appearance of any. Therefore,

As soon as the sick complain—and the sooner they do, I must repeat, the better it will be for themselves—should there be reason to suppose that the primæ viæ are loaded with indigested matter, let it be immediately dislodged by giving one of the emetics, 1, 2, 3, 4, 5* ; and if the sick are either costive, or have not

* See the Appendix.

had a stool from the vomit, one of the cathartics, 6, 7, 8, or 9, is to be administered, as soon as the stomach is sufficiently composed to receive it: or an emetico-catharticum, 10, 11, may be given instead of the vomit; and the operation of the medicines is to be assisted with camomile tea, or broth, or any other drink which is most convenient, or thought proper.

If the sick complained in the evening, when the operation of the medicines prescribed is finished, I would order the common pediluvium to be made use of, and one of the sudorifics, 12, 13, 14, 15, to be taken in bed; and some suitable drink—as wine whey, vinegar whey, wine and water, weak sherbet, weak brandy and water; or an infusion of any of the common herbs, sage, hyssop, mint, or balm, a little warm—after it. I would also order a blister to be applied

between the shoulders, especially if head-ach is much complained of. But the drink must be regulated by circumstances, sometimes by the patient's inclination.

Next morning, if the sick are costive, no stool having been procured by the emetic; and if it was too late, when the patients complained, to prescribe either of the cathartics, 6, 7, 8, or 9—and their cases admit of the delay—let one or other of them be administered: and, as soon as a stool is procured, the bark is to be ordered, in the form and vehicle most agreeable to the sick, and to be repeated according to the urgency of the cases; *i. e.* every hour, or every two, three, or four hours, as prescribed in 16, 17, 18, or 19, until the cure is effected.

But should the case appear urgent at its commencement, I would order the bark after the manner of 20, 21, or 22,
every

every hour, and to begin immediately : or if I practised in a hot climate, or where Febrile Infection was virulent, I would prescribe after the same early and liberal manner, every hour, without delay.

If the sick complained in the morning, I would either prescribe the emetic, or emetico-catharticum, immediately ; and the bark, with or without any aperient medicine, according to circumstances, to be taken, as before-mentioned, until the patient recovered ; which is generally about the time when bark is first administered by other eminent physicians. The sudorific, pediluvium, and blister, may likewise be prescribed the first night at bedtime, if thought proper ; and the bark to be continued throughout the night, as regularly as in the day. The anodyne stimulant draught, or bolus, 23, 24, 25, may be repeated every night after, at

bed-time, or oftener, as occasion requires; which is also to regulate the quantity and quality of the cordial medicines, and nutriment, to be joined with the bark.

S E C T. VII.

APPLICATION OF THE MANAGEMENT,
WHEN FEBRILE INFECTION IS CON-
FIRMED AND ADVANCED.

Should the sick have been ill for days before assistance is called in, which is too generally the case; when Febrile Infection is confirmed in the constitution; when debility is far advanced in its progress, and is rapidly increasing, by the ill-judged management, perhaps, of letting blood, vomiting, sweating, and purging repeatedly, by the confinement and inanition of the sick, and by the natural tendency of the disease—not a mo-

ment is to be lost. I am therefore to suppose that they are now under an exacerbation of every symptom, and that the stomach will not retain medicines or drink. In this situation, and at this period of the disease, I consider the time irretrievably lost, when a vomit, an aperient, or a sudorific, by their stimulant power, might possibly have been of great benefit; because their evacuating and debilitating powers would now far exceed the little advantage which their stimulant power can effect, when debility is far advanced. I would therefore immediately prescribe 26 or 27, according to circumstances; and drink as suitable to their cases and situation as possible, so as it might be rather distilled into their mouths, than administered in draughts. If the stomach continues to reject every thing, the draughts 26 or 27 are to be repeated, as occasion requires;

quires; or 28 may be given, in the same manner, until it is composed: and the bark is to be given then as liberally and frequently as the sick can bear it, either with medicines, or such a proportion of wine, compound waters, or ardent spirits diluted, as may be found proper. Should the practitioner unfortunately have conceived a prejudice against opium in any form, the stomach must be composed with volatiles, ardent spirits, compound waters, or wine, in the forms most agreeable to the sick and their cases; and the bark to be given then, as before mentioned; with this monition, that much more bark will be required to effect a cure, than if it had been administered at the commencement of their illness: so conformable to truth will the axiom which I have laid down for administering bark be invariably found, *viz.* “that the earlier and more liberally

liberally it is given in Febrile Infection, the more speedily it will be effectual, and the less will be requisite for the cure." In violent exacerbations, however, the opiate may be repeated with great advantage, and the bark be continued nevertheless.

Blisters may be useful at any time of the Fever, provided the parts are healed up as soon as possible, and fresh ones applied *.

S E C T. VIII.

APPLICATION OF THE MANAGEMENT,
WHEN FEBRILE INFECTION IS FAR
ADVANCED.

But if it has been neglected to call in assistance until obvious symptoms of dissolution, as profuse hæmorrhage, dy-

* See the Fifth Head, on Particular Evacuations, Part iv. Chap. i. Sect. iii.

ſentery, colliquative diarrhæa, or ſweats accompanied with extreme debility, are come on; let not the practitioners idly look on, and expect (as many of the moſt eminent ancient and modern phyſicians have done) that, by theſe profuſe evacuations, nature is either relieving herſelf, or pointing out a method by which they ought to relieve her, and to carry off the diſeaſe, when the little remains of ſtrength and life are only running out. On the contrary, let them conſider it an indiſpenſable duty to reſtrain theſe evacuations, and to ſupport and re-invigorate the ſick by every poſſible means; adminiſtering bark in every form, both internally and externally; in (29, 30, 31, 32) clyſters, cataplaſms, fomentations, and even baths; as well as by the mouth, together with the volatile ſtimuli (33), mineral acids, or wine, or any other vehicle or medicine which
may

may be thought proper ; and ripe fruits, if they are to be had, in such quantities, and as frequently, as the stomach can bear them. Even though the stomach should reject them *, the internal as well as external means are still to be persevered in ; because neither philosophy nor experience point to any other method of treatment by which death can possibly be prevented.

S E C T. IX.

THE MANAGEMENT OF PARTICULAR SYMPTOMS.

As to particular symptoms which may sometimes occur, *viz.* pulmonic or

* In this state, from the great stimulant power which I have observed fixible air to possess, in cases where I have administered it, I am fully satisfied that it will prove of infinite service, if it is administered in the preparations or forms of bark and wine, as 34 and 35 ; and am therefore determined on giving it in this manner, in future, in the advanced periods of Febrile Infection or Scurvy.

hepatic

hepatic affections of the chronic species, though they have perhaps been of long standing—or are only incidental, depending upon the constitutions of the sick, *not upon Febrile Infection*, and will require great exertions of skill and experience to manage them—the principal indication for the treatment of Fever must never be lost sight of. It is therefore to be remembered, that I am not speaking of peripneumonia or hepatitis, or of any disease depending on inflammatory diathesis; but of affections which may have owed their origin to these diseases in the lungs and in the liver, &c. ; occasioning pain, cough, and expectoration from the former, which are to be relieved with such as 34; and pain, enlargement of, and suppression of the bilious secretions in, the liver, for which such as 37 and 38 are to be prescribed.

scribed *. The antiphlogistic treatment is on no account to be adopted.

Hæmorrhagia will be carried off by such medicines as 39.

The yellowness, or bilious-like suffusion, which often appears over the whole body in Febrile Infection, particularly in hot climates, is by no means an alarming symptom. It appears sometimes so suddenly, and is so transitory, that a young practitioner may however be surprised at it. I therefore would caution him against imagining that it implies any peculiar malignancy of the case: for it much more frequently happens from the hepatic affection † before mentioned

* When mercurials are given as deobstruents in hot climates, they must be combined with other purgatives, to prevent their running off by salivation, which they are far more apt to do than in cold climates.

† It may also proceed from constipations of the bowels blocking up the biliary ducts. Why the liver

mentioned (and will yield to the method prescribed for it), than from a dissolved state of the blood occasioning the ferous parts thereof to extravasate the vessels, which are so relaxed, from the general state of debility, as to suffer it to pass : and when this is the cause of the appearance, it will be removed and obviated by fulfilling the general indication for the cure ; as will likewise the train of eruptions, petechiæ, maculæ, or vibices, &c. ; as also delirium, and the many other local affections, such as diminution of the different senses, of the uses of the extremities, of the natural evacuations, and of the periodical discharges—fulfilling the general indication for the cure, will, I say, remove all these

is so frequently affected, particularly in hot climates, and should occasion so much disease, is not easy to be accounted for ; though certain it is that, excepting the stomach, no other viscus is so often affected.

and

and other alarming symptoms of Febrile Infection, unless the method of treatment which I have pointed out is deferred until the extinction of the vital energy is at hand: then both bark and stimuli will prove ineffectual. But when these remedies are combined, and administered liberally and often, as before mentioned, and with due regard to the following circumstances, medical professors will have the satisfaction to reflect that they have done their utmost, and will often enjoy the pleasure of seeing the sick recovered from the jaws of death.

C H A P. II.

CIRCUMSTANCES TO BE PARTICULARLY
ATTENDED TO IN THE TREATMENT
OF FEBRILE INFECTION.

S E C T. I.

ADMINISTRATION OF MEDICINES, &c.

MEDICAL practitioners are very often imposed upon and deceived by their patients, as well as by the nurses and relations of the sick. They are assured that their directions have been strictly followed, when the draughts have been either thrown or hid away; and, notwithstanding this ungenerous and dishonest conduct of sick, nurses, and relations, they often blame the *doctor* because the sick do not recover. It is therefore

therefore a matter of the first importance to all parties concerned in the management of Febrile Infection, as well as to the sick, that the physicians or medical practitioners, under whose care they are, should be rigid in their rules and directions for administering medicines and drink, as well as in their enquiries in what manner they were managed, and passed the time in their absence. In bad cases therefore their visits should be frequent, and they ought to make a rule of seeing the medicines given as often as possible; by which means they will receive better information of the state of the sick than they possibly can do otherwise. The experienced physician or practitioner, I know, stands in no need of this advice; but the young and inexperienced, who imagine they have discharged their duty when they have written a prescription, or given a verbal

direction, must be cautioned against this indifferent and flimsy practice, if they wish to acquire knowledge, success, and reputation in their profession.

S E C T. II.

O N A I R.

Sick or well, our very existence depends on air; unless therefore the greatest attention is paid to it, the most judicious practice, in other respects, is rendered not only ineffectual, but the health and even the lives of the medical professors are greatly endangered. All possible means ought to be constantly used to render it as pure and salutary as the situation and circumstances of the sick will admit. Various are the means which authors* have recommended for this

* Dr. Lind, of Haflar, has been the most particular author on this subject.

purpose, either to be burnt, fumigated, or evaporated in the chambers or apartments of the sick, in wards of hospitals, and in the sick births on board of ships, all of which may be more or less useful; but, as I have already mentioned them on board of different ships, I shall refer the reader to the Observations on Jail, Hospital, and Ship Fever *.

However, as the directions laid down there for purifying sick births in ships cannot be complied with in hospitals, nor in chambers of sick, the more attention is to be paid to other means of changing the air, and rendering it salubrious.

In hospitals the wards ought to be so lofty, and the windows so high, as to admit of the upper part of them to be open, without any risk of the wind or

* In various parts of them, particularly in pages 113. 279.

stream of air blowing down upon the beds: and the wards should be so constructed as to have windows on both sides; that part of them on each side being open, as often as may be thought proper, there may be a thorough draught of fresh air to force the foul air out. I would have no curtains about the beds or cradles; but there might be linen curtains to the windows, dyed with colours least offensive to the eyes, to obscure the light occasionally.

A little fire ought to be always kept in the wards, for keeping a constant draught of the foul air up the chimneys, and the more effectually to prevent any lodgment of infected air in them. Neither wearing apparel of any sort, nor provisions, should be kept in them, especially where the worst patients are; but should be brought from an adjoining
room

room when wanted, and carried back again when made use of.

The same attention is to be paid to keep the air in chambers, or apartments of the sick, pure ; which is to be done by leaving the door or a window open frequently, or both at times, for a minute or two, or longer ; and if the bed stands in the draught, and is upon castors, it should be moved out of it, or the curtains should be drawn round it until the room is purified : otherwise the bed curtains should never be haled close round, but only so much as to shade the light in the eyes of the sick, or to keep off the stream of air from them while the room is purifying ; and this ought to be done often. If the season admits of it, a little fire may be kept up, for the reason already mentioned : but the sick are never to be stewed up with large fires, nor the window shutters shut, and curtains

4

down,

down ; nor bed curtains drawn, and the doors shut, at one time : part of one or other must be open constantly, and the fire always moderate.

S E C T. III.

C L E A N L I N E S S.

Cleanliness is perhaps the next circumstance in point of importance to be attended to about the sick, without which all our skill and labour to save the patients lives, or to prevent contagion from spreading, will sometimes be found ineffectual. Our attention therefore must necessarily be directed to every minute circumstance about the sick ; and whether they are situated in sick births on board of ships, in the wards of hospitals, in the corner of a hovel, or in the apartments of a palace, makes no difference, in the absolute necessity there is for attending to cleanliness.

linens. No filth, no excrementitious matter, whether stools, urine, expectoration, pus, old dressings, or foul linen, nor clothes of any kind more than are absolutely necessary, are to be kept about them, and much less any provisions.

The sick are to be got up every day at least once, if possible, and to be kept out of bed as long as prudence will admit, to allow time to air their beds and bedding, either in the sun[?] or at fires*. When they are so weak that they cannot sit up, they should be moved either into another bed, or upon a couch of some sort, that their beds and bedding may be

* During the war, I had it established as a part of the discipline on board of the different ships to which I belonged, to have a division of the well men's hammocks and bedding aired daily upon deck, when the weather would permit; to which the seamen were at first very averse, as they are to every innovation, how beneficial soever it may be to them; but they soon derived so much comfort from it, that they became extremely fond of it.

aired.

aired. I not only have had the beds and bedding aired as often as possible, but I have had two sets of some patients beds and bedding destroyed before they recovered. Provided proper care is taken in doing it, and when the circumstances of the sick will admit, neither the chambers, the beds and bedding, nor the linen of the sick, can be too often aired or changed.

When a fleet or an army, or even a family, become sickly, there ought not to be a moment's remission in the physician's or surgeon's attention to the sick. Indeed the medical practice in [the two former is accompanied with such insurmountable difficulties, that all our care and exertion will hardly procure us self-approbation at times : and I must repeat, that sick on shore require the physician's attention and visits much oftener than is customary. When the lives of
valuable

valuable subjects are in danger, expences or trouble bear no competition with the consideration of preserving them.

S E C T. IV.

QUIETNESS AND REST.

They who have never been sick on board of a ship, cannot possibly conceive the misery arising from the perpetual noise and disturbance there, nor the luxurious comfort of quietness and peace which I have enjoyed when removed on shore during illness. The incessant though irremediable noise continually on board, disturbs, and even distracts the head, far beyond the power of words to express, or of any one's mind to conceive, who has not experienced this grievous affliction. Indeed, supposing sick were fully as well treated in other respects on board, as they are on shore in hospitals,

the

the enjoyment of peace, quietness, and rest, give the preference greatly in favour of the latter. With respect to sick on shore, therefore, I shall only observe, that the quieter every thing is conducted in their chambers by the medical professors and other attendants about them, and the less they are disturbed by visitors or relations, the more comfortable they will find themselves in every respect, and the sooner they will recover.

S E C T. V.

DRINK AND NUTRIMENT.

When thirst is incessant, as frequently happens, the most eligible manner to supply the sick, would be, if possible, to distil drink almost constantly into the mouth : but it ought to be an invariable rule never to allow them large draughts, because these only satiate craving for a moment ;
the

the mouth and throat soon become dry again; and a repetition of the draughts occasions anxiety and oppression about the præcordia, by distending the stomach, and pressing the great vessels, diaphragm, and lungs.

Respecting what is most proper for drink, I would generally prefer wine and water, sometimes perhaps acidulated with the juices of fresh or preserved fruits, or mineral acids, and sometimes with a little burnt bread in it. But sometimes the patient's inclination must be indulged, and at other times it must be adapted to their circumstances, as well as to those in which they are situated.

As to the idea of any other nutriment than what is administered in their medicines and drink, until they arrive at a convalescent state, it is entirely out of the question; and then no regard is to

be paid to fashionable hours, which I must observe have been the destruction of many convalescents, and weakly constitutions of people of fashion and high life.

C O N C L U S I O N.

I Have now fulfilled my promise of laying before my reader, in a summary manner, in the Preface, my reasons for composing the preceding Essay ; intimated upon what ground I have rejected all the theoretic genera or species of Fevers ; and for having adopted the new doctrine of Febrile Infection, or Idiopathic Fever, only.

In the Introduction I have more fully explained those reasons, shewed the insufficiency of the writings of authors on Fever hitherto*, and the great advan-

* With few exceptions, some of which I arrived at the knowledge of in 1786 ; among whom Dr. Millar stands foremost.

tages which might arise from public medical registers being kept.

In the First Part of the Essay I have stated a brief account of all the theoretic doctrines, divisions, prognostics, and critical days, indications for the cure, and method of treatment of Fevers.

In the Second Part I have shewn the bad consequences of latent and unsuspected Febrile Infection, in many instances; that Idiopathic Fever is, and always has been, more or less infectious; assigned many reasons why medical knowledge has not been more improved; and pointed out the means to distinguish Febrile Infection from other diseases.

In the Third Part I have presented a synoptical view of my Observations on Febrile Infection, from the beginning of 1759 until the end of September 1789; stated some remarks on the remote and proximate causes of Febrile Infection; placed

placed the doctrine of Febrile Infection on philosophical induction from observation, experience, and successful practice in three quarters of the world ; and made some remarks on the preceding doctrine. I have also stated obvious reasons why Fever is more easily cured in hot than in cold climates ; inserted a general description of Febrile Infection ; enumerated the general and particular affections accompanying it ; marked the distinguishing symptoms in the cases which terminated fatally under my observation, during the period already mentioned ; and added my remarks on prognostics and critical days.

In the Fourth Part, I have stated the indication for the treatment of Febrile Infection ; the nature and effects of evacuations when applied to the cure ; the effects of particular remedies in curing it, especially of bark, wine, and opium ;

made some observations on the general management thereof; the application of this management to the commencement, to the confirmed state, to the more advanced state, and to particular symptoms; and mentioned the circumstances requiring particular attention in the treatment of Febrile Infection.

These are the objects, in the preceding Essay, which are laid before the reader for his serious consideration and attention. By divesting them as much as possible of technical terms, they are levelled to the comprehension of every intelligent person, without opening a door of hope for empirics to profit by. Indeed the difficulties which continually present themselves, in medical practice, to regularly-bred professors, being so great and numerous as to demand all our skill and attention, especially in the management of Febrile Infection, there

is little reason to apprehend that my having reduced to plain philosophical induction the doctrines, the indication for, and the principle upon which the cure of Febrile Infection depends, for thousands of years wrapt up in unintelligible theories, incomprehensible divisions, or visionary systems—will arm empirics with weapons to injure the profession. But I am certain that the nearer our doctrines and practice can be brought to sound philosophy, good sense, and general comprehension, the more will both be esteemed and applied to by all ranks of people ; which is not the case at present : no wonder, seeing that no person is (observed to be) so averse to take medicine, when he is ill, *as the physician himself*. Does not this imply either that his profession is a farce, in which he has no faith ; or, though convinced of the truth of its doctrines, that there is certain dan-

ger in taking medicines? Is it then any matter of wonder that medical practice should be held by so many in derision? Had those *vis medicatrix naturæ* physicians read and confided less in the erroneous doctrines of their favourite authors, and studied diseases as they occur with more diligence, and attended to the effects of medicines administered in due time, and in proper quantity, their scepticism would soon have given place to conviction; and they would have been in no more doubt or fear to swallow a draught, than to prescribe one; which would have been treating their patients as they treated themselves, and might have justly been styled *moral practice*.

The consequence of their scepticism and supineness is, that medicines which would have proved effectual, had they been given in proper time, are delayed to be prescribed until it is too late; and
instead

instead of fixing the blame upon their own dilatoriness, where it ought to be, they unjustly lay it on the medicines, particularly on bark; which indeed, if delayed to be given in Febrile Infection until debility is far advanced, though given then in the most judicious manner, will be found to act far more slowly than if it had been given liberally and early in Febrile Infection. But should they delay to give the bark until debility is so far increased that the tone of the stomach, or its digestive power, is destroyed, the proper time to have given it is irretrievably lost; and it will now lie inoffensively, though inertly, upon the stomach: which is no more to be charged against the efficacy of bark to cure Febrile Infection, than bread or meat failing to nourish and restore a man, who has been starved to the approach of death, can be said to be owing to its not

possessing the property of nourishment. The fact in both cases is similar; i. e. neither can bark in the one, more than the bread and meat can in the other, effect impossibilities. To fulfil both intentions, they must be given in proper time, and in proper quantity.

The properties of bark have been found and allowed to be effectual in curing intermittents; but prohibited as if they had been deleterious in continued Fevers, “because,” say authors, “of its phlogistic and constipating qualities.” But supposing, for the illustration of this argument, that it possessed these qualities, upon what principle dare they violate their own judgment and reasoning, by prescribing it in the simplest form of Fever, which, inasmuch as it is nearer to the healthy state than continued Fever *, is so much nearer to the state of

* I speak in compliance with custom.

inflammatory diathesis, and consequently more improper.

The reason why bark has been found so effectual in curing intermittents is, that the stomach and medicine therein act reciprocally with effect upon each other; that the vital energy, or digestive power, is but little diminished, and that little bark is therefore required to repair the diminution; the reverse of which occurs in continued Fever. The vital energy being now far more diminished, much more bark is required to restore it; though the tone or digestive power of the stomach is so greatly destroyed, that it is proportionably less able to digest, and to be acted upon by the bark. The longer it is delayed, in any case of Febrile Infection, to give the bark, under a proportionably less advantage it is given, the more will be required, and the longer it must be continued, to effect the cure.

cure. Therefore, as the effect of bark, administered in Febrile Infection, will always be in a *ratio* to the diminution of the vital energy, or to the debility of the sick—the commencement, being the nearest period of the disease to the healthy state, is the most proper and advantageous period for the sick and the physician to administer it; and then much less wine, opium, or other medicines, will be required to assist it.

What I have advanced respecting the efficacy of bark, in curing Febrile Infection, will not, I hope, betray the reader into a belief, that, in such cases as are accompanied with incidental or habitual topical affections, I disregard or overlook those affections. Far from such neglect, while in prescribing I endeavour to fulfil the indication of the former, I pay particular regard to the latter. But as such complex cases cannot be
enume-

enumerated nor stated before they occur*, practitioners must discriminate them from one another, and manage them according to the best of their judgment, upon the principle I have laid down.

There is one weighty difficulty, however, which I know may be ingeniously raised against the treatment of Febrile Infection which I have proposed. Though they should admit of its superiority to any other treatment, how is Febrile Infection (they may say) to be treated in countries where neither bark, wine, nor opium are known? To remove this difficulty, I must state another question—How is it supposed mankind live where neither bread, butchers meat, nor beer are known? The rudest herds of men, in the most distant corners of the earth, have articles of food which an-

* Some of the most common I have taken notice of in sect. viii. of chap. i. of part iv.

fewer all the purposes these do in ours. Some macerate, pound, and make into lumps or cakes, one sort or other of grain, or of trees, or of roots, which they either boil or roast, in place of bread. All of them have their fish, or their wild fowl, or their venison, or the flesh of some animals, for meat; and they enjoy their unfermented wines, or their oils, instead of our beer. The same solution may apply to the first question. Should the medical readers unfortunately practise in the situation which they describe, they will most probably meet with some medicines possessed of similar properties, though in an inferior degree, to bark, wine, and opium. But whatever be their situation in practice, they should religiously abstain from the antiphlogistic or debilitating treatment, considering it as more judicious and humane to do nothing rather than mischief; and remember

member that, throughout the remotest regions of the earth, wherever men exist, the principle upon which I found the cure of Febrile Infection will be found invariably requisite and proper.

From what has been said, I trust the reader is fully convinced of the importance of the subject of Febrile Infection, in the preceding Essay. In all times and regions its influence has been felt. No rank, age, or sex, has been secure against it. It has set bounds to the ambition of the most proud and powerful monarchs. The emperor, as well as the meanest peasant of his realm, has sunk under it; so nearly related is the effect (on the human constitution) of extreme penury, and of affluence abused. The one no less than the other debilitates, and induces, or renders us liable to, this universal disease. To ward off the consequence, it is the interest of all men to
flee,

steer, as much as possible, between those extremes. Moderation and temperance ought to regulate the one, and honest industry to obviate the other : and should we, notwithstanding all our care, be yet visited with the direful calamity, we have reason to thank God that he has furnished us with means to overcome it, if on our part we are but careful to make a timely and proper use of them. With a view to enable the inexperienced reader to distinguish and obviate the disease, or when present to apply its remedy, these doctrines—" that Febrile Infection, or Idiopathic Fever, is always and every where the same, and more or less infectious"—" that it originates from a diminution of the energy which maintains the equilibrium or healthy state"—" that the cure depends on restoring that diminished energy"—and " that it will be most speedily and effectually accomplished by
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the method which I have endeavoured to introduce, from many years observation and experience"—with this view, I say, these doctrines have been composed, and laid before the public; and should they be fully adopted, and universally practised, they will, I most seriously believe, prove of infinite advantage to my fellow-creatures, whose welfare is, as it ought to be, my great concern. My time and labours are dedicated to their well-being; and surely (next to the consciousness of passing through the short term of our existence with the approbation of our great Creator) the pleasure of enjoying, and of being instrumental in communicating to others the enjoyment of, that best of all earthly blessings, health, constitutes the principal part of human happiness.

The first of these is the fact that the
the second is the fact that the
the third is the fact that the
the fourth is the fact that the
the fifth is the fact that the
the sixth is the fact that the
the seventh is the fact that the
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the tenth is the fact that the

the eleventh is the fact that the
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the twenty-second is the fact that the
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the twenty-fourth is the fact that the
the twenty-fifth is the fact that the
the twenty-sixth is the fact that the
the twenty-seventh is the fact that the
the twenty-eighth is the fact that the
the twenty-ninth is the fact that the
the thirtieth is the fact that the

A P P E N D I X.

IN the Formulæ I have been designedly more particular than was necessary for the skilful reader; but the young and inexperienced medical professors, into whose hands the Essay may fall, will think otherwise, when they have many cases of Febrile Infection under their care. To have presented them then with a few elegant prescriptions only, which their situations would by no means have enabled them to follow or imitate, could answer no good purpose to them, and they would have been of no more use than a toy.

In the Latin Formulæ I have inserted

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the

the new names introduced in the new *Pharmacopœia Londinensis*, and the old names in the notes ; and in the translation of the Formulæ I have retained the old names chiefly for the convenience of the English reader. The quantities of each article I have endeavoured to adapt, as well as the doses, to the different sexes, ages, and constitutions ; and, having so extensive an object in view, I hope inaccuracies will meet the reader's indulgence.

F O R M U L Æ.

No. I. R Pulv. rad. ipecacuanhæ gr. i.—x.

Aq. simplic. ℥iii.—℥iss.

M. fiat haustus emeticus.

II. R Pulv. rad. ipecacuanhæ gr. i.—xv.

Aquæ ferven. coch. i.—iv.

In vase clauso per minutas viginti infunde, & cola, pro haustu emetico.

III. R Pulv. rad. ipecacuan. gr. i.—x.

Conserv. cynosbat.

Fiat bolus emeticus.

IV. R Vin. ipecacuan. ℥ii.—℥ii.

Pro haustu emetico.

V. R Antimon. tartarificati * gr. i.—iv.

Aquæ simp. ℥viii.

* Tartar. emet.

Fiat emetica solutio ;

Cujus cochlearia parva duo, largum
unum, dimidia quaque hora, usque
ad vomitionem, hauriat.

VI. R Sal. cathart. amar. ℥iv.

Aq. fervent. ℥ss.

Fiat solutio cathartica :

Cochleare unum dimidia quaque ho-
ra, ut alvi bis terve respondeant,
repetendum.

VII. R Infusi fennæ simp. ℥ss.—℥ii.

Natron. vitriol.* vel

———— tartarifat. † ℥ss.—℥i.

Mannæ ℥iii.—vi.

Fiat haustus catharticus.

VIII. R Calomel. pp. gr. ii.—vi.

Conferv. rosar.

Fiat bolus purgans. Vel

R Pilul. colocynth. ℥i.

Calomel. gr. i.—iv.

M. pro dose una.

IX. R Pulv. rhabarb. Russ.

* Sal cath. Glaub. † Sal Rupell.

Nitri vitriolat.* ā gr. v.—ȝi.

Fiat pulvis catharticus. Vel

℞ Pulv. rad. jalap.

Sal. nitri ā gr. v.—ȝii.

Tinct. jalap. ȝi.—ȝii.

Aq. menth. pip. ȝss.—ȝii.

M. pro haustu purgante. Vel

℞ Gummi Guaiac. gr. x.—ȝss.

Pil. aromat. gr. v.—xv.

Syr. de cort. aurant.

Fiat bolus catharticus. Vel

℞ Tinct. fennæ, vel

—— rhabarbar. vel

Vin. rhabarb. ȝss.—ȝii.

Pro haustu aperiente.

X. ℞ Solutionis (No. VI.) ȝii.

Pulv. rad. ipecacuanhæ gr. v.

M. fiat emetico-catharticum.

XI. ℞ Haustus (No. VII.), vel

Tincturæ fennæ ȝss.—ii.

Vini ipecacuanhæ ȝiii.—x.

M. pro emetico-cathartico.

XII. ℞ Solutionis (No V.) ȝss.—ifs.

*Sal polychrest.

Tinctur. cinnam.* ʒi.—iv.

—— opii† gtt. xv.—l.

M. fiat haustus sudorificus.

XIII. R Aquæ ammoniæ acetatæ ʒi.—ʒi.

Syrupi papaver. alb. ʒi.—x.

Tinctur. lavendul.‡ ʒi.

M. pro haustu diaphoretico.

XIV. R Spirit. æther. nitrosi,||

Liquor. vol. c. c. §

Tinctur. opii ā gtt. x.—xl.

Vini alb. ʒii.—ʒii.

M. fiat haustus sudorificus.

XV. R Sal. corn. cerv. gr. i.—viii.

Opium pur. gr. $\frac{1}{4}$ —ii.

Conserv. cynosbat. q. s.

Fiat bolus sudorificus.

XVI. R Pulv. cort. Peruv. opt. ʒii.

Aq. simp. ℥iiss.

Fiat mistura.

Dosis ʒiii.—ʒii.

XVII. R Pulv. cort. Peruv. opt. ʒiii.

* Aq. cinnamom. sp.

+ Tinct. thebaic.

‡ Sp. lavend. c.

|| Nitri dul. § c. c.

Aq. frigidaë (vel ferventis, ut visum)
 \mathfrak{z}_{xxx} .

Infunde, per horas decem, in vase
 clauso, mistura subinde agitata; dein
 cola.

Dosis \mathfrak{z}_{ii} .— \mathfrak{z}_{ii} .

XVIII. R Pulv. cort. peruv. \mathfrak{z}_{iii} .

Aq. simp. \mathfrak{lb}_{iiss} .

Coque, in vase clauso, per minutas
 decem; & cola.

Dosis \mathfrak{z}_{ss} .— \mathfrak{z}_{ii} .

Ad No. XVI. XVII. XVIII. si visum sit,
 unam vel plures de medicinis sequen-
 tibus adde:

Sal. cathart. amar. - - \mathfrak{z}_{ss} .— \mathfrak{z}_{i} .

Natron. preparat.* - \mathfrak{z}_{ii} .— \mathfrak{z}_{vi} .

—— tartarifat. - \mathfrak{z}_{ii} .— \mathfrak{z}_{vi} .

—— vitriolat. - \mathfrak{z}_{ii} .— \mathfrak{z}_{vi} .

Kali tartarifat.† - - \mathfrak{z}_{i} .— \mathfrak{z}_{iv} .

Nitri vitriolat. - - \mathfrak{z}_{i} .— \mathfrak{z}_{ii} .

Mannæ - - - \mathfrak{z}_{ss} .— \mathfrak{z}_{i} .

* Sal sodæ.

† Tartar. solubil.

Pulv. rhabarb.	- - -	℥ss.—℥i.
— jalap.	- - -	℥i.—℥i.
Nitri puri	- - -	℥i.—℥ii.
Spirit. æther. nitrosi	-	℥i.—℥ii.
— vitriolici *		℥i.—℥ii.
— ammoniæ comp. †		℥i.—℥iii.
— ætheris vitriolici comp. ‡	- - -	℥i.—℥ii.
Tinctur. opii	- - -	℥ss.—℥iss.
Pulv. ipecacuan. comp. §		gr. x.—℥ ii.
Antimonii tartarifati	-	gr. i.—ii.
Pulv. Contrayerv.	-	gr. x.—xxx.
— cort. Cascarill.	-	℥i.—℥ss.
— sal ammon. crud.		℥i.—℥ii.
— rad. Columb.	-	℥i.—℥iii.
— cort. St. Luciae		gr. x.—xxiv.
— rad. serpentar.		gr. xii.—xxxvi.
Elix. vitriol.—ad gratum saporem; vel		
Spirit. sal.—ad gratum saporem.		

XIX. R Pulv. cort. Peruv. ℥ii.

Syrup. croci, q. f.

* Sp. vit. dulc.

† Vol. aromat.

‡ Liquor anod. Hoff.

§ Pulv. Doveri, fere.

Fiat

Fiat electuarium ;

Dosis cochleare parvum ;

Cui, ut visum, unam vel plures medicinarum sequentium adde :

Rasur. ferri recent. - ℥ss.—℥iss.

Rubig. ferri - - ℥i.—℥i.

Ferri vitriolati* - - gr. ii.—x.

Confect. opiat.† - - ℥ii.—℥ss.

Pulv. aromat.‡ - - ℥ii.—℥vi.

XX. R Pulv. cort. Peruv. gr. v.—℥ii.

Aq. cinnamom.

Vini alb. ā ℥ii.—℥i.

Fiat haustus.

XXI. R Pulv. cort. Peruv. gr. v.—℥ii.

Vin. alb. ℥ii.—℥ii.

M. pro haustu.

XXII. R Pulv. cort. Peruv. ℥ii.

Sp. arden. ℥ii.—℥vi.

Tinct. lavend. ℥ii.

Aq. menth. ℥xviii.—xxii.

* Sal Martis.

† Pro theriaca androm. et philon. confect. damocrat.

‡ Spec. aromat.

Fiat mistura ;

Dosis coch. i.—cochlear. iv.

XXIII. R Pulv. cort. Peruv. gr. x.— z ss.

Sal corn. cerv. v. gr. ii.—x.

Opⁱi pur. gr. ss.—ii.

Syrup. croc.

Fiat bolus ;

Cui, pro re nata, adde, ut visum :

Camphor. gr. ii.—vi.

Mosch. - gr. ii.—x.

Alumin. - gr. v.—xx.

Myrrh. - gr. ii.—v.

Gum. Guaiac. gr. v.— z ss.

XXIV. R Tinctur. opⁱi gtt. v.—xl.

Vin. alb. z iii.— z iss.

Syr. croci z ii.

Fiat haustus.

XXV. R Tincturæ cort. Peruv. comp.* z i.—vi.

———— opⁱi gtt. v.—xl.

———— lavendul. z i.

Aq. menth. piperitid. z ss.—iss.

M. pro haustu.

* Tinct. cort. Peruv. Hux.

XXVI. R Spirit. nucis moschat. ℥i.

Tinct. cort. Peruv. comp. ā ℥i.—℥ss.

—— opii gtt. v.—xl.

Syr. croc. ℥ii.

Aq. menth. ℥ss.—ifs.

Fiat haustus.

XXVII. R Tinct. cinnamom. ℥i.—℥i.

—— opii gutt. v.—l.

Aq. cinnamom. ℥ss.—ifs.

M. pro haustu.

XXVIII. R Kali pt.* gr. v.—℥ii.

Tinctur. opii gtt. v.—l.

Aq. cinnamom. ℥ss.—℥ifs.

Tinctur. cinnamom. ℥i.—iii.

Fiat haustus ; cui, ut visum, adde

Succi limon. recent. cochleare unum ;

pro haustu, in actu effervescentiæ,
deglutiendo.

XXIX. R Pulv. cort. Peruv. ℥i.—℥i.

Juscul. vervecin. ℥ii.—x.

M. fiat clyfma.

XXX. R Pulv. cort. Peruv. ℥ss.—℥iv.

* Sal absinth.

Vin. (vel

Spirit. arden. vel

Acet. vel

Jusculi) q. f.

M. fiant cataplasmata.

XXXI. R Pulv. cort. Peruv. ℥i.—iv.

Aq. simp. (vel

Sp. arden. et aq. simp. ā ℔i.—℔ii. vel

Vini) ℔ii.—iv.

Coque, in vase clauso, per minutas
decem, pro fotu; si visum, coletur.

XXXII. R Pulv. cort. Peruv. ℥iv.—xvi.

Aquæ simp. cong. ii.—viii.

Coque (ut in No. 31) *pro balneo*.

Decoctum coletur; et, si visum, ad-
dantur

Vini ℔i.—iv. vel

Spirit. arden. ℔ss.—℔ii,

M.

XXXIII. R Tinctur. opii,

Spirit. ætheris vitriolici comp.

—— ammoniæ comp. ā gtt. v.—i.

Tinctur. cinnamom. ℥ss.—℥iss; vel

Hauftus (No. 21), vel

Mistur.

Mistur. (No. 22), $\text{ʒss.}—\text{ʒii.}$

M. pro haustu.

XXXIV. & Mistur. (No. 16), vel

Infus. (No. 17), vel

Decoct. (No. 18),

Aëre fixibile impregna, bis, terve, quaterve; & in phialis bene obthuratis fervetur. Dosis $\text{ʒss.}—\text{ʒii.}$

XXXV. & Pulv. cort. Peruv. ʒii.

Vini ʒiiss.

Fiat mistura, aëre fixibile (ut 34) impregnanda. Etiamque dosis idem.

XXXVI. & Infusi cort. (No. 17) $\text{ʒiii.}—\text{ʒii.}$

Tinctur. opii camphor. gtt. x—lxxx,

———— cantharidum gtt. v.—xxxv.

Syrup. althææ ʒii.

Fiat haustus; cui, ut visum, adde

Kali tartarifati gr. x— ʒiii.

XXXVII. & Mistur. (No. 16) $\text{ʒiii.}—\text{ʒii.}$

Tinctur. aloes * gtt. x.—lx. (vel

Lixivii saponar. gtt. iii.—xxx.)

* Elixir aloes.

Spirit. nucis moschat.* ℥i.

Fiat haustus.

XXXVIII. R Electuar. (No. 19) cochlear. parvum,

Al. focotrin. gr. v.

Calomel. pp. gr. i.

M. fiat bolus.

XXXIX. R Decoct. cort. (No. 18) ℥ss.—℥ii.

Pulv. alumin. gr. v.—℥i.

Infus. vel tinctur. rosar. ad gratum
saporem.

M. fiat haustus.

* Aq. nucis moschat.

TRANSLATION

OF THE

PREScriptions.

No. I. Take of Powder of ipecacuan from one
to ten grains ;

Simple water, from one to four
spoonfuls :

Make a draught.

II. Take of Powder of ipecacuan (as in No. I.);

Boiling water (as in No. I.):

Infuse in a close vessel for twenty
minutes, and pour off the clear,
for a draught.

- III. Take of Powder of ipecacuan, as in No. I.
and, with
Conserve of hips;
Make a bolus.
- IV. Take of Ipecacuan wine from one to
four spoonfuls,
For an emetic draught.
- V. Take of Antimony tartarised * from one
to four grains ;
Simple water, eight ounces :
Make a solution ;
Of which, from two tea spoonfuls
to one table spoonful is to be
taken every half hour until
the patient vomits.
- VI. Take of Bitter purging salts four ounces ;
Boiling water, half a pint :
Make a solution ;
One table spoonful to be given
every half hour till it operates.
- VII. Take of Infusion of fenna from one to
four table spoonfuls ;

* Emetic tartar.

Glauber

Glauber purging salts, or
Rochelle salts, from half an
ounce to one ounce ;

Manna, from three to six drams:

Make a purging draught.

VIII. Take of Calomel prepared from two to
six grains ;

Conserve of red roses :

Make a purging bolus. Or,

Take of Colocynth pill one scruple ;

Calomel prepared, from one to
four grains :

Mix for one dose. Or,

Take of Gum guaiac from ten to thirty
grains ;

Aromatic pill, from five to fif-
teen grains ; with

Syrup of orange peel

Make a purging bolus.

IX. Take of Powder of Russia or Turkey
rhubarb,

Sal polychrest, of each from
five grains to sixty :

Make a purging powder. Or,

T

Take

Take of Powder of jalap,

Salt of nitre, of each from five grains to forty ;

Tincture of jalap, from one to two drams ;

Peppermint water, from half an ounce to two ounces :

Make a purging draught. Or,

Take of Tincture of fenna, or

———— rhubarb, or

———— wine rhubarb, from half an ounce to four ounces :

For an opening draught.

X. Take of Solution (No. VI.) two ounces ;

Powder of ipecac. five grains :

As an emetic-purging draught.

XI. Take The draught (No. VII.) ; or of

Tincture of fenna, from half an ounce to two ounces ;

Ipecacuan wine, from three to ten drams :

As an emetic-purging draught.

XII. Take of Solution (No. V.) from half an ounce to one ounce and a half ;

Tincture of cinnamon, from one
to four drams ;

———— opium, from ten to
fifty drops :

For a sudorific draught.

XIII. Take of Mindererus spirit from one to
eight drams ;

Syrup of white poppies, from
one to ten drams ;

Compound spirit of lavender,
one dram :

Make a sudorific draught.

XIV. Take of Spirit of nitre dulcified ;

———— hartshorn ;

Tincture of opium, from ten to
forty drops ;

Wine, from two drams to two
ounces :

Mix for a sudorific draught.

XV. Take of Salt of hartshorn from one to ten
grains ;

Pure opium, from one fourth of
a grain to three grains ; with

Conserve of hips

Make a sudorific bolus.

XVI. Take of Powder of best Peruvian bark
two ounces ;

Simple water, twenty-four ounces :

Make a mixture. The dose from
one to four spoonfuls.

XVII. Take of Powder of bark* three ounces ;
Cold or boiling water, thirty
ounces ;

Infuse ten hours in a close vessel,
shaking it now and then, and
strain.

The dose from two drams to two
ounces of the infusion.

XVIII. Take of Powder of bark three ounces ;
Simple water, two pounds and a
half :

Boil in a close vessel for ten mi-
nutes, and strain the decoction.

The dose from half an ounce to
two ounces.

* The best is always understood.

To the numbers XVI. XVII. and XVIII.

one or more of the following medicines may be added, as the physician thinks proper :

Bitter purging salts, from half an ounce
to one ounce ;

Sal fodæ, or

Rochelle salts, or

Glauber salts, from two to six drams ;

Soluble tartar, from one to four drams ;

Sal polychrest, from one to two drams ;

Manna, from half an ounce to one ounce ;

Powder of rhubarb, from half a dram to
one dram ;

———— jalap, from one scruple to one
dram ;

———— nitre, from one scruple to two
drams ;

Spirit of nitre, dulcified, from one to two
drams ;

———— vitriol, dulcified, from one to
two drams ;

———— volatile aromatic, from one to
three drams ;

Hoffman's anodyne liquor, from one to two drams ;

Tincture of opium, or liquid laudanum, from sixty to a hundred and eighty drops ;

Compound powder of ipecacuan, from ten to eighty grains ;

Tartar emetic, from one to two grains ;

Powder of Contrayerva, from ten to thirty grains ;

————— Cascarilla bark, from one to four drams ;

————— ammonia salt, from one to two drams ;

————— Columba, from twenty to sixty grains ;

————— St. Lucia bark, from ten to twenty grains ;

————— snake-root, from twelve to thirty-six grains ;

Elixir of vitriol, or

Spirit of sea salt, to make the medicine agreeably acid.

XIX. Take of Powder of Peruvian bark two ounces ; with

Syrup

Syrup of saffron or ginger

Make an electuary.

The dose a tea-spoon full. To which
may be added occasionally one or
more of the following medicines :

Fresh filings of iron, from half a dram to
a dram and a half ;

Rust of iron, from twenty to sixty grains ;

Salt of steel, from two to ten grains ;

Opial confection, from two to four drams :

Aromatic powder, or spices, from two to
six drams.

XX. Take of Powder of Peruvian bark from
five grains to two drams ;

Cinnamon water,

White wine, of each from two
drams to one ounce :

Make a draught.

XXI. Take of Powder of bark from five grains
to two drams ;

White wine, from two drams to
two ounces :

Mix for a draught.

XXII. Take of Powder of bark two ounces ;

T 4

Spirit

Spirit (brandy, rum, or gin),
from two to six ounces ;

— of lavender (compound),
two drams ;

Mint water, from eighteen to
twenty-two ounces ;

Make a mixture. The dose
from one to four spoonfuls.

XXIII. Take of Powder of Peruvian bark from
ten to thirty grains ;

Volatile salt of hartshorn, from
two to ten grains ;

Opium, from half a grain to two
grains ; with

Syrup of saffron

Make a bolus.

To which (instead of the salt of hartshorn)
may be added one or more of the fol-
lowing medicines :

Camphor, from two to six grains ;

Musk, from two to ten grains ;

Alum, from five to twenty grains ;

Myrrh, from two to five grains ;

Gum guaiac, from five to thirty grains.

XXIV.

- XXIV. Take of Tincture of opium from five to
forty drops ;
White wine, from three drams to
an ounce and a half ;
Syrup of saffron, two drams :
Make a draught.
- XXV. Take of Huxham's tincture of bark
from one to six drams ;
Tincture of opium, from five to
forty drops ;
Compound spirit of lavender,
one dram ;
Peppermint water, from four to
twelve drams :
Mix for a draught.
- XXVI. Take of Spirituous nutmeg water ;
Huxham's tincture of bark,
from one dram to four ;
Tincture of opium, from five to
forty drops ;
Syrup of saffron, two drams ;
Mint water, from four to twelve
drams :
Make a draught.

XXVII.

XXVII. Take of Tincture of cinnamon from one dram to an ounce ;

Tincture of opium, from five to fifty drops ;

Cinnamon water, from half an ounce to an ounce and a half:

Mix for a draught.

XXVIII. Take of Salt of wormwood or tartar from five to forty grains ;

Tincture of opium, from five to fifty drops ;

Cinnamon water, from four to twelve drams ;

Tincture of cinnamon, from one to three drams :

Make a draught ;

To be mixed with one spoonful of fresh lemon juice, and to be drank in a state of effervescence.

XXIX. Take of Powder of bark from one to eight drams (an ounce) ;

Mutton broth, from two to ten ounces :

Make a cataplasim.

XXX.

XXX. Take of Powder of bark from half an ounce to four ounces ;

Wine, or

Spirit (as in No. XXII.), or

Vinegar, or

Broth, enough to make a mass for cataplasms.

XXXI. Take of Powder of bark from one to four ounces ;

Simple water (or

Spirit and of simple water, of each from one to two pints, or

Wine) two to four pints or pounds :

Boil in a close vessel ten minutes, and strain the decoction for a fomentation.

XXXII. Take of Powder of bark from four to sixteen ounces ;

Simple water, from two to eight gallons :

Boil (as in No. XXXI.) and strain off the decoction for a bath.

To which may be added either

Wine

Wine, from one to four pints (or pounds); or

Spirit, from half a pint to two pints :

Mix them.

XXXIII. Take Tincture of opium,

Hoffman's anodyne liquor,

Volatile aromatic spirit, of each
from five to fifty drops ;

Tincture of cinnamon, from four
to twelve drams ; or

The draught (No. XXI.), or

The mixture (No. XXII.), from
half an ounce to two ounces:

Make a draught.

XXXIV. Take Mixture (No. XVI.), or

Infusion (No. XVII.), or

Decoction (No. XVIII.),

And impregnate twice, thrice, or four
times with fixible air ; and let it
be preserved in small bottles, well
corked, and laid on their sides.—
The dose from half an ounce to two
ounces.

XXXV.

XXXV. Take of Powder of Peruvian bark two ounces ;

Wine, twenty-four ounces :

Make a mixture, and impregnate it with fixible air, and preserve it (as No. XXXIV.) ; and the dose the same.

XXXVI. Take of The infusion (No. XVII.) from three drams to two drams ;

Paregoric elixir, from ten to eighty drops ;

Tincture of cantharides, from five to thirty-five drops ;

Syrup of marshmallows, two drams :

Make a draught ; to which add occasionally,

Soluble tartar, from ten grains to three drams.

XXXVII. Take of The mixture (No. XVI.) from three drams to two ounces ;

Elixir of aloes, from ten to sixty drops ; (and occasionally

Ley of soap, from three to thirty drops) ;

Nutmeg water, one dram :

Make a draught.

XXXVIII. Take of The electuary (No. XIX.) a
small spoonful ;

Socotrine aloes, five grains ;

Calomel prepared, one grain :

Make a bolus.

XXXIX. Take of The decoction (No. XVIII.)
from half an ounce to two
ounces ;

Powder of alum, from five to
twenty grains ;

Infusion (or tincture) of roses, as
much as will make it grate-
ful :

For a draught.

F I N I S.

